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Westerns Are Back: *Silverado*

American Cinematographer



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20

Inside: *The Black Cauldron:*
Animated Adventure

MEANWHILE :

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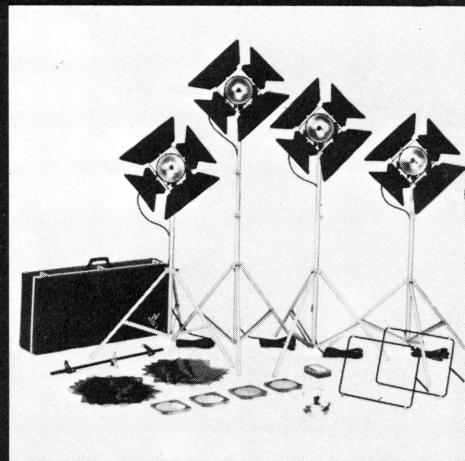
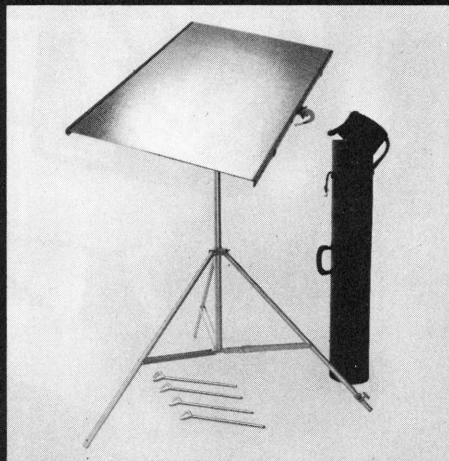
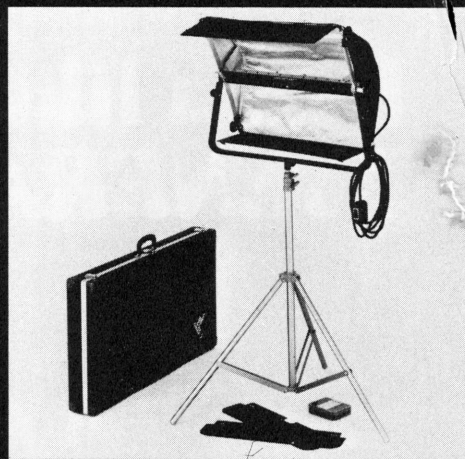
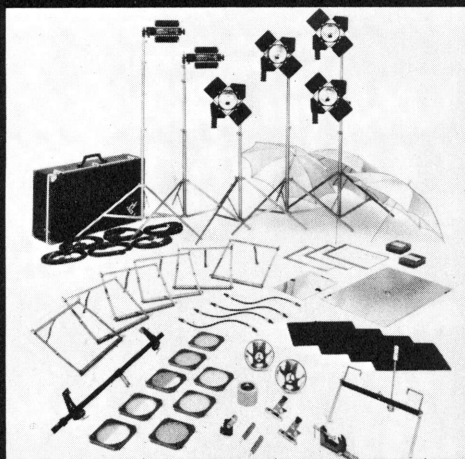
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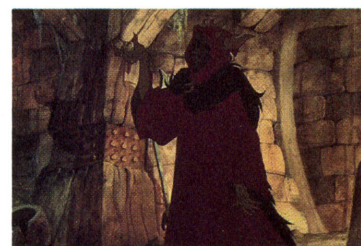
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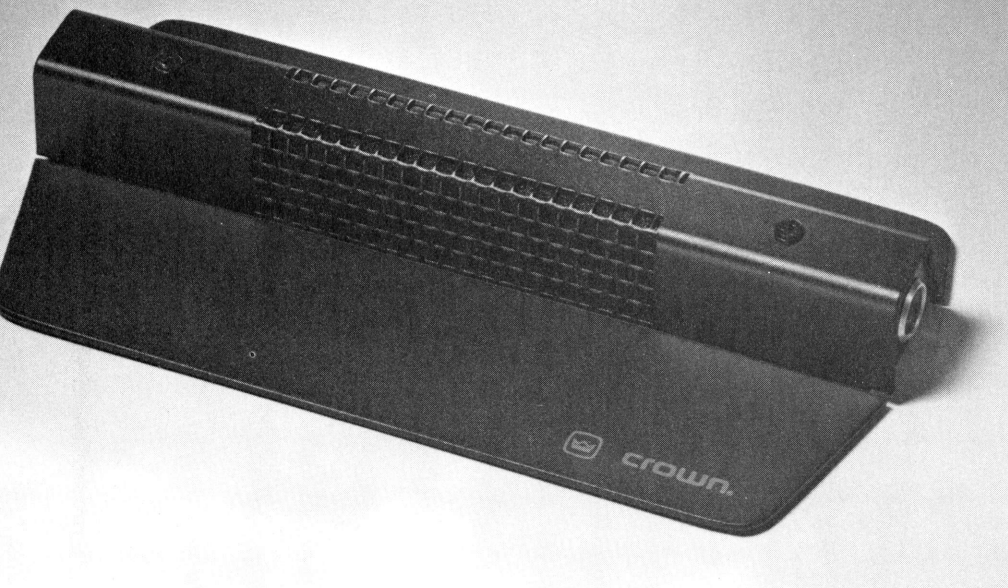
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On Our Cover:
Silverado brings back to the big screen a once popular genre, the Western, replete with riders and horses in full charge. (Photo courtesy of Columbia Pictures)

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We did it right.

It's no surprise that when the key engineers of our PZM® microphone technology set their sights on combining the benefits of the boundary effect with unidirectionality, the fruits of their efforts would be nothing less than superior.

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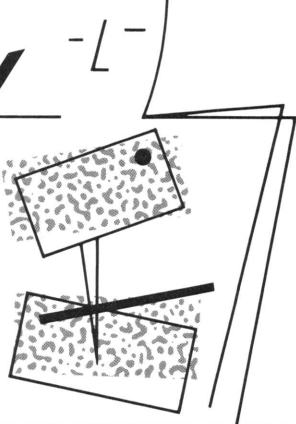
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The American Society of Cinematographers is not a labor union or a guild, but is an educational, cultural and professional organization. Membership is by invitation to those who are actively engaged as Directors of Photography and have demonstrated outstanding ability. Not all cinematographers can place the initials ASC after their names. ASC membership has become one of the highest honors that can be bestowed upon a professional cinematographer, a mark of prestige and distinction.

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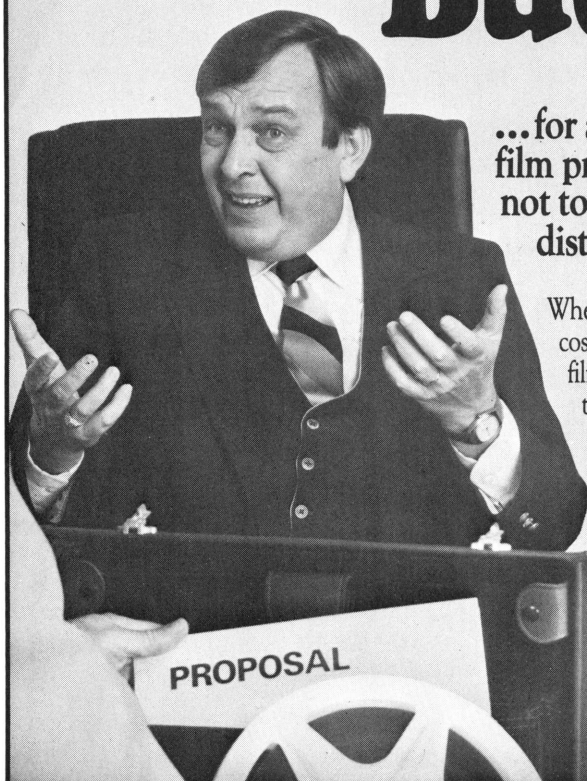
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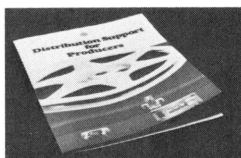
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Our new test-projector reticle lets us *measure* the resolution of our lenses and express it as a *number*. The new reticle's target lets us see almost twice the number of line-pairs per millimeter.



The new reticle: Reads up to 200 line-pairs per millimeter. Cost Century Precision \$10,000 to develop. Worth every penny.

With our new reticle, comparing resolution on those two brand-new 20mm lenses wasn't a subjective judgement. It was two *numbers*. One lens scored higher than the other.

On the new reticle, the progressively finer line-pair groups are *labelled* – the numbers are up there on the projection screen. After we repositioned the floating elements on the softer lens, its resolution number was the same as the other.

The reticle target we were using before *didn't* display the numbers; and its maximum was 125 line-

pairs per millimeter (LPM). Since it was designed for the Air Force in 1951, lenses and filmstocks have gotten a lot better. The new target reads up to 200 LPM.

Big projection room image

Those fine details are easy to see in our special projection room. At seven feet, for example, the new reticle's target image projected by a 25mm lens is 6 ft 7 ins. from side to side.

We routinely check *every* new lens at *every* distance marked on the barrel. Some lenses arrive from the factory with inaccurate focus distance markings.

At Clairmont, we re-engrave those immediately, using the projector.

"Some lenses arrive from the factory with inaccurate focus markings..."

New Zeiss lenses are always accurately marked, in our experience. But even *those* superb lenses can change with time, wear and tear.

Their helical focussing threads wear in very slightly. After baking in the sun, their lubrication can partially dry out. Zoom cam-followers become worn.

Service record card

Like everything else, lenses need maintenance. We keep a service record card on every one of our lenses. From now on, the LPM resolution number will be on the card, with all the *other* data on that lens.

The new reticle: part of the Clairmont projector system of lens testing, maintenance and repair

Not all projectors are created equal

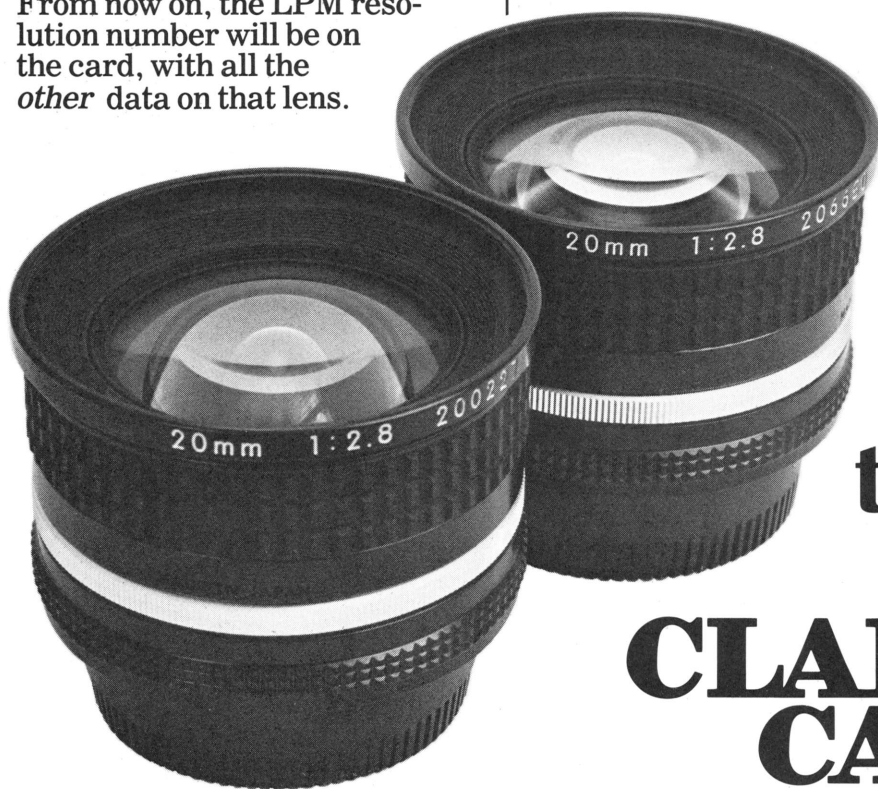
The test-projector we use is not an adapted slide projector—it was designed for the specific purpose of testing lens performance.

That's important. For example: the flange-to-reticle target distance is very precisely controlled *and immovable*. We're not testing just the lens—we're also testing the lens as it will perform on the camera.

We do the standard tests on our collimator, of course. But modern super-

speeds and floating-element designs need much more than that. They may check out fine at infinity. But they may lose resolution as you focus closer; or the image may go soft at one side of the screen.

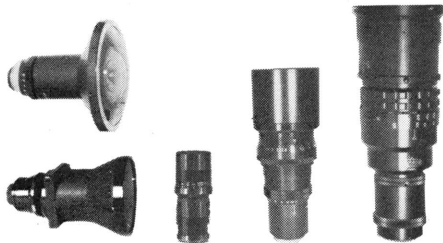
Our test-projector's condenser optics are designed to illuminate the iris pupil evenly and randomly edge to edge—so we really *are* testing the lens wide open. If there's anything wrong, we can see it unmistakably. After we've fixed the problem, the test-projector lets us clearly see that we've got it right.



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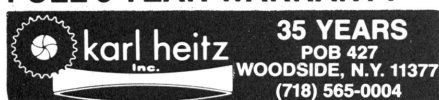
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*Letters***Still More About "Wings"**

Through sheer coincidence, uncanny prescience or just plain editorial alertness, you managed to combine the magnificent story of *Wings* and a memorial tribute to its great aerial cameraman, Harry Perry, in the same issue (April 1985). I thank you for the twin bonus.

As a photographer who worked closely with Harry on the Bikini atomic tests in 1946, I had my first exposure to one of those special people you meet in your lifetime. From my observations, he would have been a director's dream: attentive to detail, patient, and creative within the limits of what was essentially a glorified military exercise.

Tom Tutwiler, Art Lloyd and Harry's brother Paul were also along on that project. Books could have been written then about the lives of these men, yet I doubt if any of us had the sense to take advantage of the opportunity. All we could think of was witnessing the world's fourth and fifth atomic bomb blasts. I'm grateful for having known the first Harry Perry.

—Duncan Schiedt
Pittsboro, Indiana

Comparisons

In the letters of August/September 1984, Rex A. Watkins and Randall Howard proposed a comparison test of the Super 8 format for TV use.

SS No... was a documentary project of the Austrian director Bernhard Frankfurter and intended as a low-budget production. I shot the whole film on Super 8 stock, mainly Kodachrome 40 and Kodak Tri-X reversal, using a crystal driven Beaulieu 6008 PRO digi equipped with an Angenieux 6-90 lens. The material was blown up to 16mm black and white negative for stylistic reasons and then the film was finished like any other 16mm production.

Having had positive experience with Super 8 blow-ups before, we felt certain we'd achieve a quality that could meet broadcast requirements. The Austrian Broadcast Corporation (ORF) is very sophisticated in technical matters. They commonly refuse experiments involving Super 8 as part of their policy. Nevertheless, our aim was to go a new way and prove our achievement by selling *SS No...* to the ORF. In collaboration with a specialized lab in Munich, we came up with a test reel which was laid out for TV transfer. The technicians of the ORF scanned it and had to admit that our material was better than several productions done on 16mm originally. So our print, which was accepted on the level of content without difficulty, also passed the technical demands.

Personally, I prefer having blow-ups broadcast rather than broadcasting Super 8 originals, because you can eliminate contrast problems emanating from the original material. By the way, editing and dubbing will not cause many technical problems.

—Wolfgang Lehner
Linz, Austria

Chart Mishap

In an article, "Lighting for High Production Value Video," *American Cinematographer's* June issue, a chart accompanying the article was mysteriously scrambled. Typographical gremlins completely fouled the numbers.

However, the same information as related in the story by Bruce L. Finn, is correct and may be depended upon by the reader.

The Professionals

"At last, an HMI you can work with."

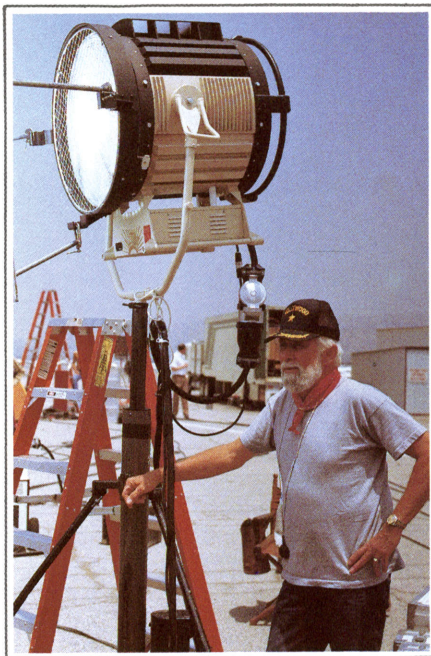
When Director of Photography and five-time Academy Award nominee William A. Fraker, ASC teamed up with LTM to use our new Luxarc 12K HMI on "Protocol," Mr. Fraker had some doubts.

A long-time fan of the carbon arc brute, Mr. Fraker said he didn't really care that our new 12K puts out approximately 25% more light than his old standby. He said it wasn't important to him that our beam spread was significantly greater at a given distance.

Well, we said, what was important to him?

"Shadow sharpness. Detail. In other words, the look of a brute."

And how did ours compare?

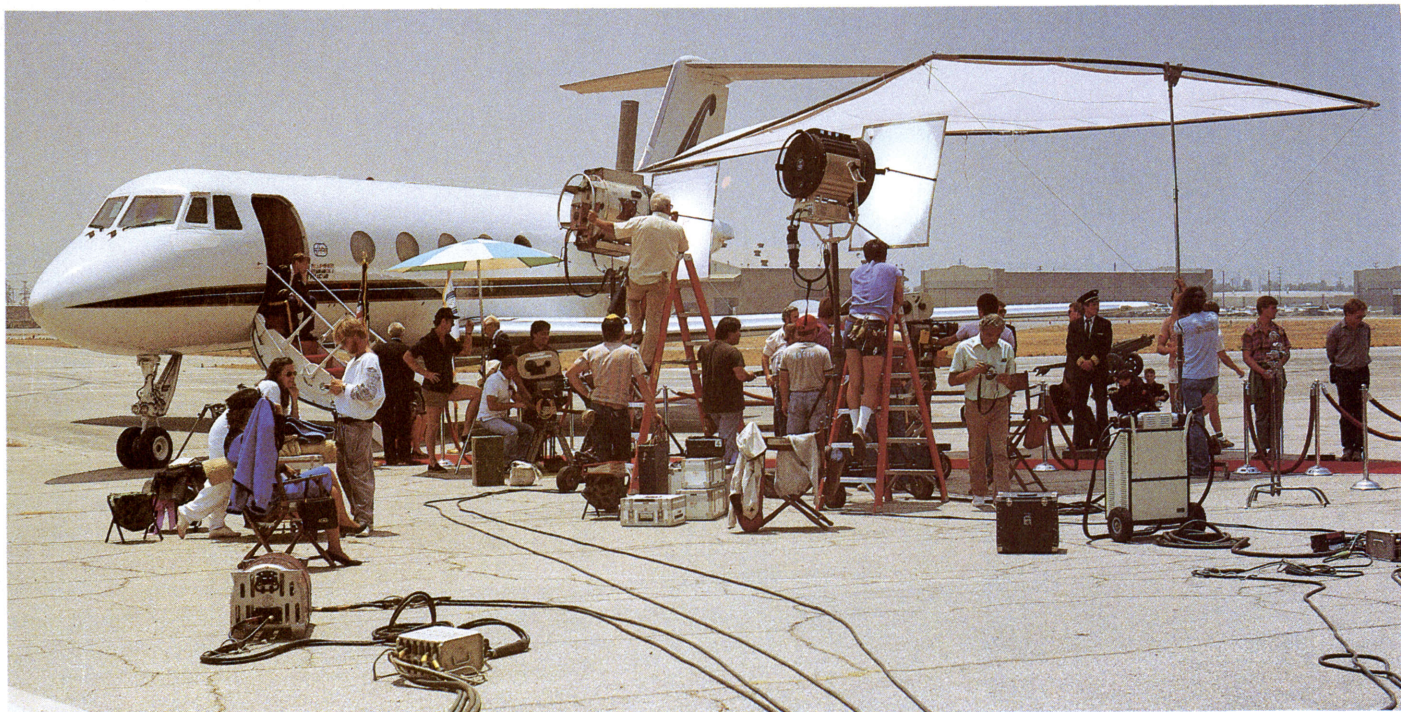


"Incredible. I never thought it would be possible. LTM has come up with the first HMI, or for that matter, the first light of any kind, that I feel as comfortable lighting a set with as I do with a brute. And that's saying something!"

While we agree, we think it's a shame if nobody cares that our Luxarc 12K is self-tending, uses almost 50% less power and produces over 25% more light . . . A crime if nobody cares that it's the most efficient, most cost-effective, least expensive light to operate.

Oh, well. Maybe it's enough that our new 12K is quite simply the brightest, cleanest, sharpest light in the world.

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The Bookshelf

by George L. George

The recently published **Variety Film Reviews 1907-1980**, a massive and invaluable 16-volume reprint of some 40,000 reviews that appeared in the entertainment industry weekly, is supplemented now by a comprehensive **Index**. This complete alphabetical list of all films includes the date of each review's publication (*Garland, New York, \$220*).

An impressive achievement in erudition and fluency, David Shipman's **The Story of Cinema** is an absorbing chronicle of film's historic progress. Shipman's comments are both informal and scholarly, encompassing 5,000 movies, leading personalities and events, as well as the industry's structure and technology (*St. Martin's, New York, \$50*).

Two timely reprints illuminate the evolution of U.S. cinema. Richard Corliss' **Talking Pictures** is an articulate challenge to the *auteur* theory and an attempt to promote screenwriters to the eminence generally reserved for directors. In **Film Is**, Stephen Dwoskin views "underground" cinema on a world-wide scale and assesses the work of such independent filmmakers as Cocteau, Fassbinder, Warhol and Brakhage (*Overlook Press, New York, \$22.95 ea.*).

David Castell's biography of the director of *Gandhi* and other award-winning films, **Richard Attenborough** sums up impressively his 40-year career as actor, director and producer. Numerous stills provide a vivid pictorial background (*Merrimack, Salem, NH, \$19.95/12.95*).

A pleasantly nostalgic portrait of a vanished era, **Niven's Hollywood** by Tom Hutchinson evokes with honest affection and many candid photographs the off-screen life of movie celebrities (*Merrimack, Salem, NH, \$17.95*).

Britain's contribution to film is examined in two informative volumes: **British Cinema History**, edited

by James Curran and Vincent Porter, and **British Cinema and Society 1930-70** by Jeffrey Richards and Anthony Aldgate. In the former, well-documented and insightful essays scrutinize interrelated aspects of Britain's film industry and its historic development. The latter book focuses on filmic presentations of social concerns of the period (*Barnes & Noble, Totowa, NJ, \$32.50 and \$26.50 respectively*).

Thoroughly researched and enlightening, Craig W. Campbell's **Reel America and World War I** is a comprehensive filmography of U.S. 1914-20 movies. It examines knowledgeably the content and thrust of these war films and includes a descriptive list of some 1,500 features and shorts (*McFarland, Box 611, Jefferson, NC, \$29.95*).

Commemorating avant-garde filmmaker and photographer Hollis Frampton who died last year, **Recollection/Recreations** is a symposium assembled by Bruce Jennings and Susan Krane. An in-depth essay, a biographical chronology, and various writings by Frampton himself surround 110 multifaceted and complex samples of his photographic work (*MIT Press, Cambridge, MA, \$15*).

Edited by Deborah Willis-Thomas, **Black Photographers 1840-1940** offers an impressive array of historic stills. They reveal the contribution to photographic art and science of 65 black camera artists, and document little-known aspects of black America (*Garland, New York, \$40*).

Tennessee Williams' tragic life is narrated in two engrossing volumes that view from different angles his struggles with drugs, alcohol and homosexuality, and his dramatic work for stage and screen. Donald Spoto's **The Kindness of Strangers** is a moving, sensitive portrait that interconnects insightfully the writer's early years, his family ties and his literary accomplish-



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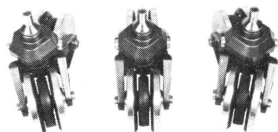


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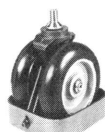
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ments. **Tennessee: Cry of the Heart**, Dotson Rader's intimate memoir, gives an affecting picture of the playwright as a desperately unhappy man, torn between the demands of his career and the personal tragedy of his troubled existence (*Little Brown, New York, \$19.95; Doubleday, New York, \$16.95*).

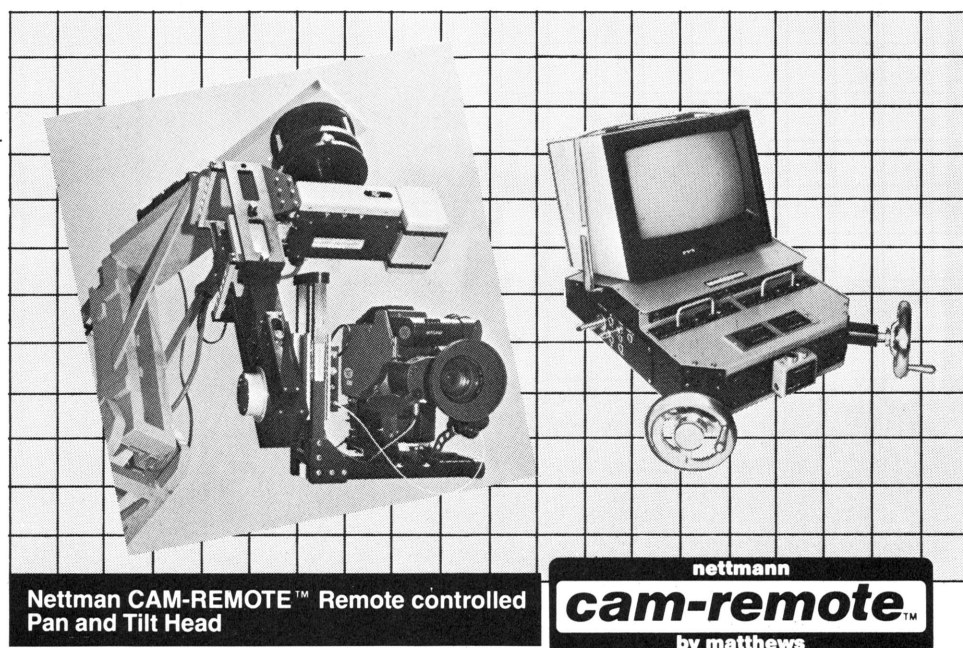
In **Film Acting**, Mary Ellen O'Brien surveys discerningly the techniques and history of performing for the camera. Her thoroughgoing approach assesses the director's role, discusses the acting standards established by stars of silent films, and contrasts the requirements of screen and stage acting (*Arco Publishing, New York, \$14.95/9.95*).

Based on a successful BBC television series, Barry Norman's **The Film Greats** recaps in probing interviews the lives and careers of six movie celebrities - David Niven, Steve McQueen, Henry Fonda, John Wayne, Cecil B. De Mille and Bing Crosby (*David & Charles, No. Pomfret, VT, \$17.50*).

Definitive biographies of two *grande dames* of the movies celebrate the glamour and fervor of Hollywood's past. **Starring Miss Barbara Stanwyck** by Ella Smith and **Bette Davis** by Gene Ringgold as updated by Lawrence J. Quirk, provide portraits of talented actresses whose gutsy personalities dominated a profession best described as precarious (*Crown, New York, \$19.95; Citadel Press, Secaucus, NJ, \$19.95*).

Skating film star Sonja Henie was not a nice person, as revealed in **Queen of Ice, Queen of Shadows** a biography by Raymond Strait and her brother Leif. A staunch admirer of Hitler, Henie displayed throughout her spectacularly successful career uncommon greed, promiscuity, egomania, deceit and a miserliness such as only the very rich can afford. Not a nice person, maybe, but quite a performer (*Stein & Day, New York, \$19.95*).

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'Sun or Moon on Wheels'



What do the 1984 Olympic Games, Super Bowl XVII, the President of the United States and Goldie Hawn have in common? They have all seen the light. the Musco Mobile Light, that is. Formally introduced to the film and video community at this year's National Association of Broadcasters convention, this light is billed as "a sun or moon on wheels."

Each light is actually a cluster of 15 6000 watt HMI's. Each one has a range of 65,000 to 23 million candle power. The cluster is mounted on a hydraulic crane that rises up to 150 feet in the air and can withstand buffeting winds of up to 100 miles per hour. More importantly, each lamp in the cluster is attached to the cross-arm support with a patented "knuckle" that allows it to be aligned precisely both vertically and horizontally. Additionally, the beam spread of each lamp can be focused. The result is an extremely flexible, unbelievably bright light source. Just for comparison, the BFL at 20th Century Fox is as bright as the Musco Light – if Musco promises to turn on only two of the 15 lamps.

The Musco Light was designed originally as a mobile sports sta-

dium light, and it was immediately apparent to video cameramen that it considerably improved the lighting conditions on the field. David Crookham, general manager of the company, recalls the first real test of this portable system. "It was September 18, 1983 at the Notre Dame/Michigan football game. I remember that day very well. ABC had asked us to do the project and they wanted to broadcast the game live for prime television. We brought in six units and it was so bright – we did a test the night prior to the game that was between 300 and 350 footcandles – that they asked us to back the things down a little bit. We had it too bright out there! We backed off a little and it was fine." Crookham and company discovered that they need only four units to light most football games.

It did not take long for the film industry to discover the power of the Musco Light. Tak Fujimoto used it to light the pier, Goldie Hawn and Christine Lahti in *Swing Shift*. But the light was really tested in *All the Right Moves*. According to Crookham, "There was a cloudy day in Johnston, Pennsylvania where we shot *All The Right Moves*. Jan DeBont wanted to create

sunlight coming through the window. They were going to have to go through the whole process of rigging all the scaffolding and then carry the fixtures up there and set them. So we took our light bank and just raised our crane up and stuck it right against the window. They had instant sunlight coming through the window. They were ten feet away or so on that. That is probably as close as you would ever need to get. The unit is so bright that you have to be careful. You can hurt your eyes if you look at it too long. And it can get hot."

Frank Tidy also used the light on his new picture, *Father Christmas* for Disney Studios, which was filmed in and around Toronto. "He has a street scene with snow falling and a car moving down the street," recalled Crookham. "A woman steps out of her house and into the street. It's night and Musco provided the instant moonlight. The whole scene was lit from 1500 feet away. Only one additional fill light was used near the actress. Frank Tidy walks over and says that he needs a little more light on the lady's face. It's a little low for his exposure. I said 'okay' and took the controller and stood right next to her, chose a light and dialed the beam up a little bit – got the foot candles up – and he says 'that's good right there.' " The light source was 1500 feet away and 100 feet in the air. The correction was made in seconds.

Tidy used the new, improved version of the light – Musco II. These units are equipped with a hand-held remote control that allows the cinematographer or the gaffer complete control of all functions of the individual lights. Each controller has a 500- to 1000-foot cord on it for maximum flexibility. If the power of only 2 or 3 lamps is needed, the others can be left in the down position. A scene, a block or an acre can be evenly illuminated, or certain areas can be spotted. *continued*

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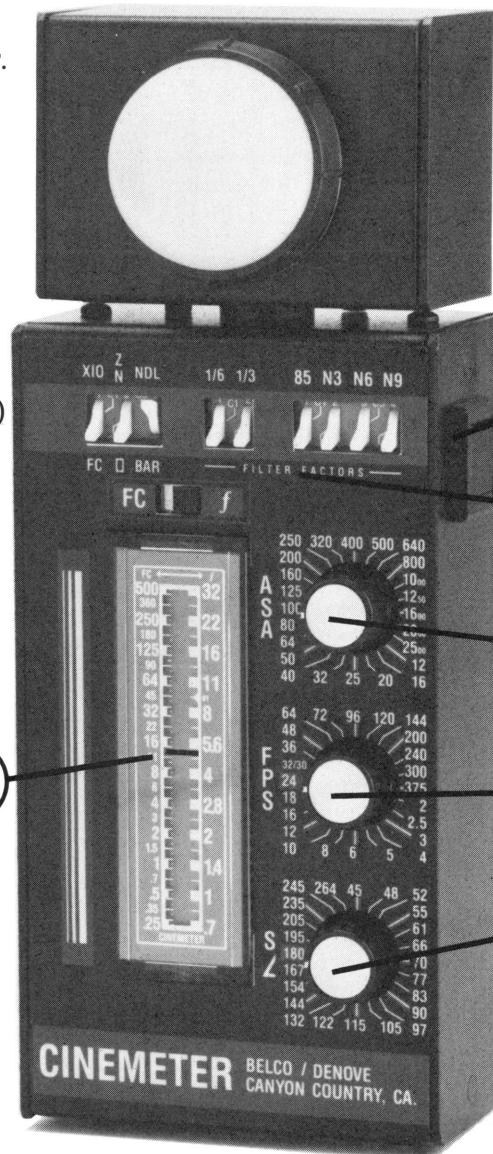
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The lights are daylight balanced which makes substituting them for sunlight much easier. For *All The Right Moves*, Musco was able to filter everything down to 3200 K, even though an HMI is normally 5600 K. The lights can also be gelled. Crookham explained, "What we are experimenting with now is Rosco's high temperature paint. What we have done in tests is just paint a lens and put it right on the light. Actually, it stands about a foot in front of it. We have gelled them too. For *All the Right Moves* we manufactured a little grid that we could rig a couple of feet away from the light. At that point, the temperature drops down enough that you can gel or frost them."

The ability of the unit to extend the daylight hours has been a big plus for video cameramen. Most stadium games begin before nightfall. Normally as the light changes and it gets darker there is a mad scramble to keep the picture color corrected and consistent. With the Musco lights turned on at the beginning of the game, night may fall, but the light intensity remains consistent and video technicians can relax.

This same principle was used recently, with a twist, in the filming of a commercial. The location chosen was a building that could not be closed down during the day for shooting. By using the Musco light the cinematographer was able to shoot night for day and the company saved a lot of money.

The light's uses are not limited to football and movies. Musco is working with Martin/Marietta to develop a lighting system for Vandenberg Air Base that would allow the space

shuttle to take off at night—doubling the available launch times! The company has been approached to light up Times Square and surrounding city blocks on New Year's Eve. Musco was even asked if it was possible to turn a New York domed stadium purple for rock star Prince. "Not a day goes by that someone doesn't approach us with a new idea for using our lights. We listen to them all," said Crookham.

As they say in Oskaloosa, "If you can imagine it, Musco can light it." For more information contact: David Crookham, P.O. Box 289, Oskaloosa, Iowa 52577, (515) 673-0411.

—(Nora Lee)

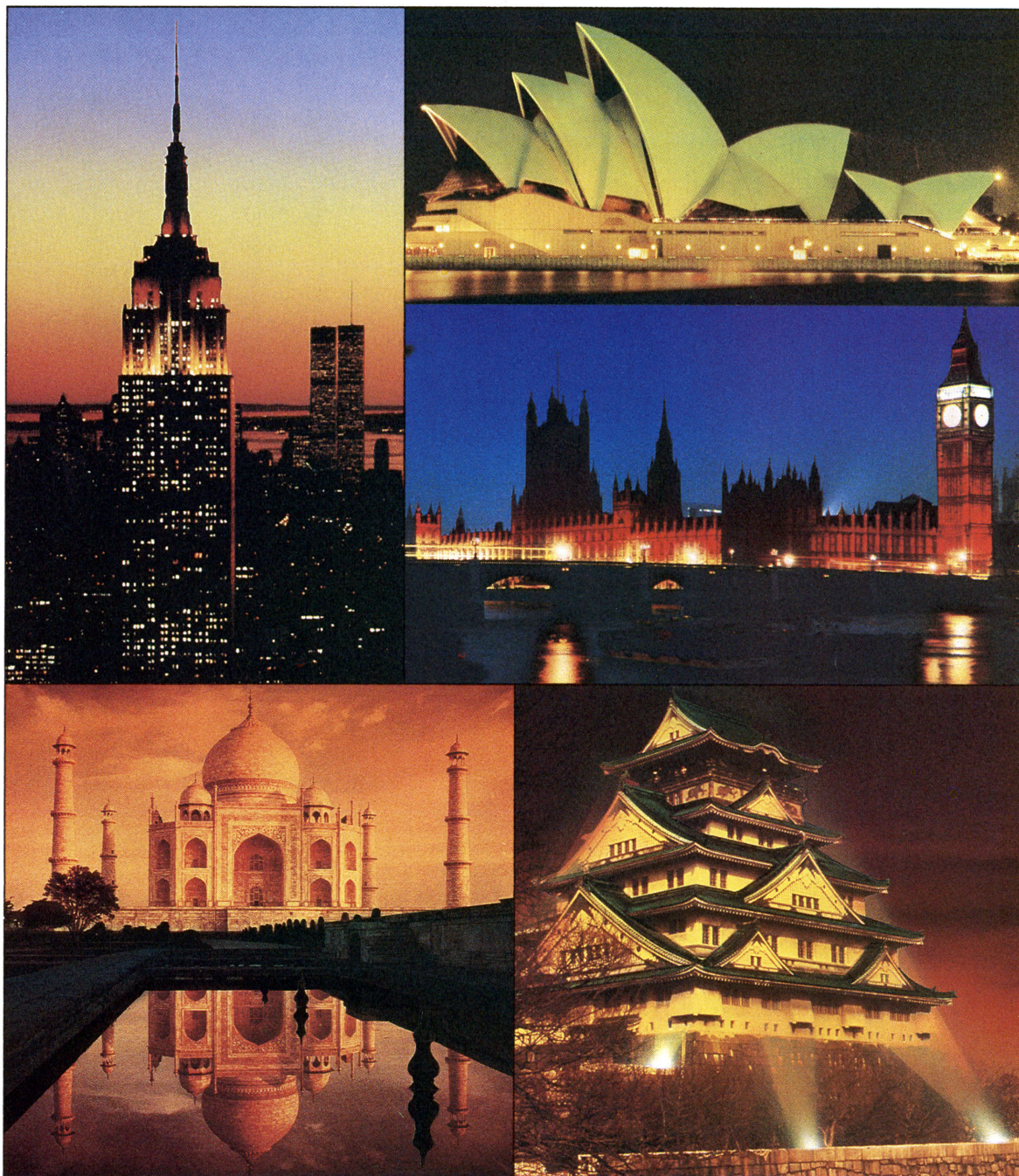


Lens Accessories

JVC has developed two new lens accessories and a tripod mounting plate for the KY-210U video camera.

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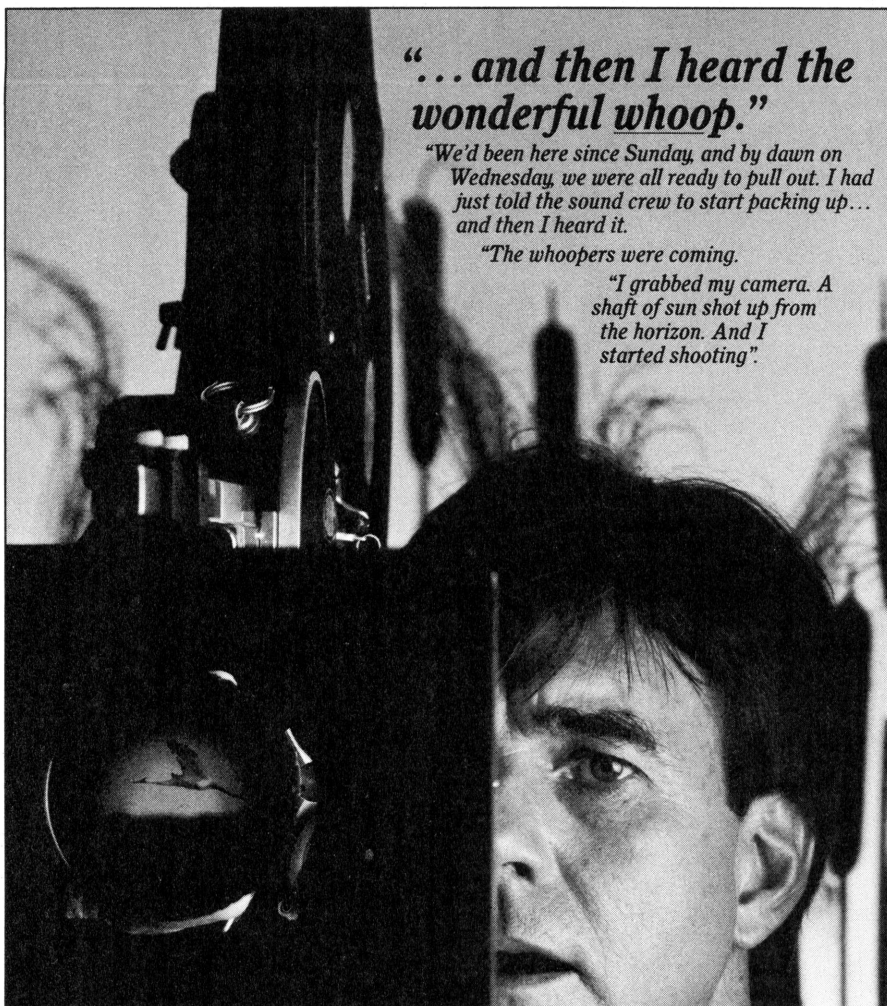
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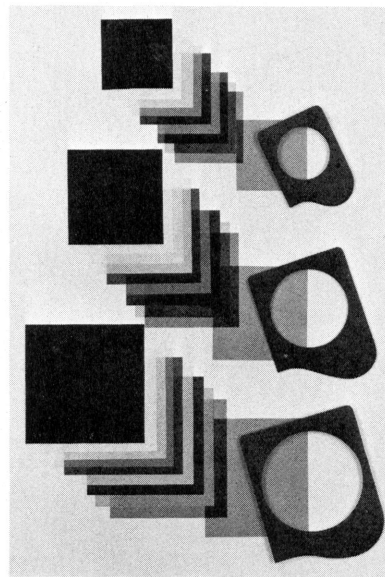
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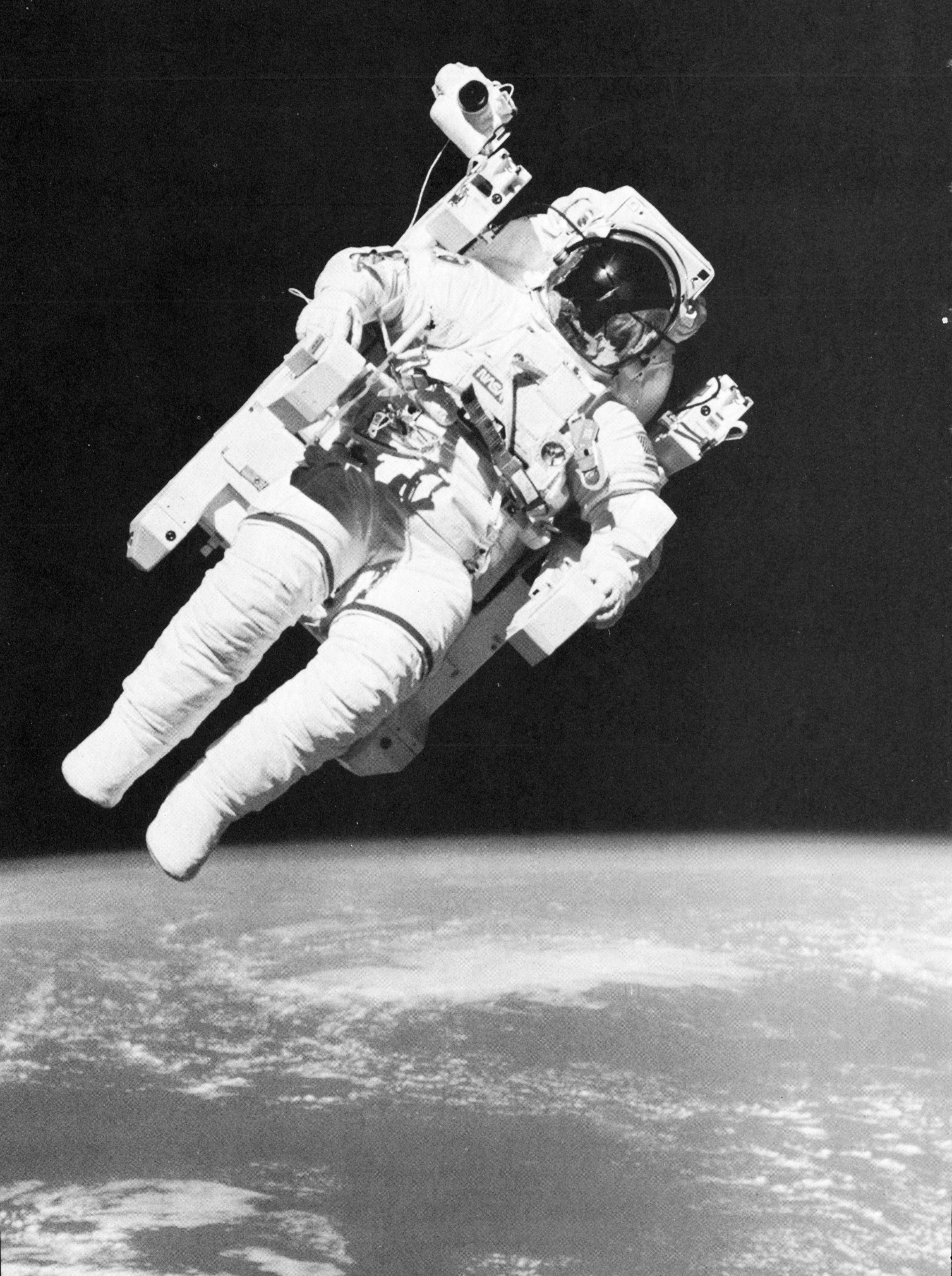
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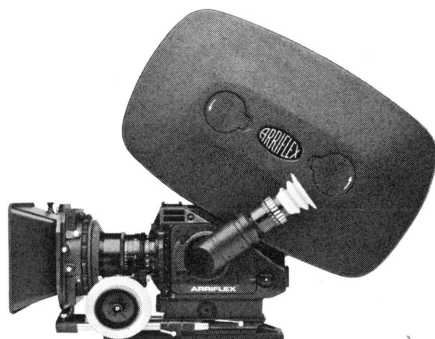


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Photos by Andy Schwartz

Lachman Films *Desperately Seeking Susan*

by Jay Padroff

Edward Lachman has been one of the most visible and talked-about cinematographers on the independent scene – American as well as European – for some time. The boyish-looking New York resident recently completed his first studio feature, the witty and striking, new-wave sugar-pop confection, *Desperately Seeking Susan*, directed by Susan Seidelman (of *Smithereens* fame). Lachman worked closely with former graphic design major Seidelman and acclaimed production designer Santo Loquasto to achieve a unified look to a film shot on diverse locations throughout New York and New Jersey.

Seidelman chose Lachman, she says, because of his work on Mark Reichert's *Union City*. *Variety* called attention to Lachman's "handsome compositions, pastel lighting, and precise camera movements." The low-budget adaptation of a Cornell Woolrich

(the father of *film noir*) short story achieved an eerie resonance from Lachman's artful use of colored gels combined with painted sets.

Lachman learned his trade over the past 12 years working with directors like Werner Herzog, Wim Wenders, and Jean-Luc Godard and legendary cinematographers Sven Nykvist, ASC, Vittorio Storaro, and Robby Muller. Lachman managed to seek out those film artists he admired and wanted to work with. Now others seek out Lachman. He is capable of bringing a synthesis of lessons learned from cinema masters as well as painters into his own emerging style. Besides *Desperately Seeking Susan*, his recent work includes Wim Wender's *A Tokyo Story*, Jan Egleson's *Little Sister*, Jerome Gray's *Strippers*, the American sequences of Nicolas Roeg's *Insignificance*, and Shirley Clarke's staggeringly beautiful *Ornette . . . Made In America* (A Mu-

sical Journey). He has just agreed to spend two months in Colombia, South America, shooting a dramatic feature based on the life of Carlos Gardell, a famous Argentinian tango singer of the 1930s.

Lachman speaks of his extensive preparation for *Desperately Seeking Susan*, the rigorous machinations behind a frivolous comedy. "I shot tests dealing with the contrast in the negative and the gels that I would use. I work with printer lights at the lab to develop different contrasts, different saturations, different feelings in the negative. How your exposure affects the printer lights to create an end result will also affect the hardness or softness of a look, I used to work primarily with one printer light for a whole film. Now I'll work with two, three, or four different printer lights on my interiors to develop the feel I'm looking for. It was very important to work very closely with the timer at DuArt, Tony Matolla."

Lachman tries to develop team relationships. "Mitch Dubin has worked as my first assistant cameraman for the last five years. Camera operator Francis Kenny, who has worked extensively in documentary, commercials, and rock videos, was a lighting cameraman himself, and I wanted a relationship with an operator who could be sensitive to the light along with me and could really make contributions towards creating the images. Generally a d.p. does both lighting and camera functions in Europe whereas here I welcomed the experience of working with an operator. Tommy Prate, who was key grip as well as dolly grip, helped me create the image and work out the problems on a very practical level. He would control the movement of the camera and the rhythm of how the camera saw the action. I find it advantageous toward creating the necessary rapport and teamwork that there be a crossover between the categories. That is maybe the major difference in style of working between Europe and America – that in Europe you use fewer people to create an end result."

Lachman's chief stylistic concern in *Desperately Seeking Susan* was the creation of two distinct worlds: the pastel world of suburbanite Rosanna Arquette, utilizing "soft, bounced ambient light and colors more in the earth tones: beiges, grays, pinks – and they were *desaturated* colors. Madonna's world, on the other hand, typified an underground, new-wave lifestyle within the city. I tried to use primary colors that were saturated, and the light had a more chiaroscuro feeling – greater contrast between light and dark. Sometimes what you didn't see was as important as what you did see." Lachman considers this aspect an extension of his lighting style in the Wim Wenders/Nicholas Ray docudrama, *Lightning Over Water*.

"Madonna's world had a much more abstract expressionist feeling. The lights didn't neces-

sarily have to be motivated. The color scheme I would call 'juke-box' – like those '50s juke-boxes with the bubbles coming through the tubes – very vibrant and rich."

Lachman tried to create the two different worlds through the quality of light and colors used on a psychological level, not just in a purely representational manner. "From the beginning, I had a very close relationship conceptionally with the production designer, so we were able to design colors on the set in the pre-production, and I would use gel in a way that could accent the sets or become a contrast. As in *Union City*, I tried to create the feel that the colors were emanating from the set.

"Early on, Santo and Susan and I worked out to do each set within two-color schemes and for the color schemes that we worked out to be matched to the gels that I wanted to use. I began to work on this as a concept in *Union City*, for example using an outer room that was green and an inner room that was pink. Like in Op Art, your eye doesn't focus on both colors at the same time so you have a sense of one color receding and another color advancing.

"Then I would light the pink room in pink gel and the green room in green gel so when the characters would walk through these different areas, they would actually change color as the color of the rooms changed."

Lachman stresses, "The important thing is to use white light within the scene so you see the color. What happens in many films is that they either use too many colors so one never really focuses on the *interplay* between colors or they use all one color and the eye gets adjusted to that color and you never really see the color because there's nothing in any kind of opposition to it."

Having started out as a painter, Lachman gained an early understanding of the nature of color and paint to advance and to recede as well as to define form. "People have always thought of how light creates form and shape and depth, but color also does that.

"Filmmakers like Ingmar Bergman, Douglas Sirk, and Akiru Kurosawa, who have used color on a psychological level, may do a whole set in one color yet the audience accepts it somehow. In *The Passion of Anna*, Bergman used red psychologically as a symbol of violence, in a kerchief that Liv Ullmann wears that drops to the snow, recalling an earlier scene in which animals are slaughtered against the glaring white snow. The rest of the time you are in monochromatic colors. Claude Chabrol is another director who has always used colors in a psychological way. A lot of films recently have tried a neon or fluorescent, juke-box color look; *One From The Heart* did that very well.

Opposite page:
Magic Club exterior,
using gels on
fluorescents to
intensify the color.
Below: Rosanna
Arquette and Aidan
Quinn in coffee shop
with venetian blinds
casting symbolic
effects.





Above: Susan in Roberta's world of soft, diffused light. Right: Roberta in her romantic world.



But what's important is to be consistent in what you're doing with your colors.

"I think the hardest thing for a cinematographer to do is to be consistent in style throughout a film – not to bend to an idea that you have for that day. The important thing in photography or in storytelling through acting, light, and movement is this consistency. When Madonna enters Rosanna's world, she has to be within the context of Rosanna's color or light, and the same is true of Rosanna entering Madonna's world. The environment that you create for the characters – the *mise-en-scene* – must fit them like a wardrobe."

Lachman began with certain references to create an official style for *Desperately Seeking Susan*. "I picked four feature films

that I thought everyone should look at: *One From The Heart*, which created a certain theatrical presentation toward the use of colors and light; Fassbinder's *Lola*, which was totally expressionistic in its use of color; *Klute*, which had great use of design and framing because of Gordon Willis's construction of imagery; and *Time Stands Still*, a Hungarian film that I find outstanding for all the reasons above and because of Lajos Koltai, the cinematographer's subtle balance between abstraction and realism. He had depicted a wonderful teenage world of the '60s, and it was very important for us not only to create a world for the characters but to create a setting for the viewer to experience these characters.

"Santo brought in many fashion magazines as well as architecture and rock magazines. To create this pop world, we looked at some rock videos and a lot of record covers. They're generally very bold and take chances visually to catch the eye. Even though I've worked on some rock videos myself [Tina Turner, Billy Idol, Elvis Costello], I feel that often rock video concepts lack a visual unity; they use a melange of different styles and effects to create something, whereas I wanted very much to have some unity between the two worlds. Although they were separate, a certain stylization would unify them.

"I see the role of the cinematographer as part of the whole" says Lachman. "He has to find what the director is perceiving, what the director wants to say in the storytelling, and then a language in which to tell that story. I'm always trying with the director to find a visual language – for storytelling through images."

Lachman learned from Herzog to hate sunsets and other visual clichés as well as classical coverage. "I like to frame things in a way that doesn't connote 'closeup, medium shot, long shot.' In other words, I think film's strength is in point of view and not in coverage. Certain types of action films have to be shot for coverage, of course, but you dissipate

your storytelling by trying to create too many options. One has to find a certain point of view in telling every scene. That has to do with the framing, the camera placement and the camera movement."

Seidelman and Lachman would discuss an approach to the coverage of shooting every scene. For several action sequences, the talents of storyboard artist Yossi Segal (of Tambetti, Inc.) were utilized. Lachman explains, "We would go in with certain notes or diagrams of how we were going to approach the scene. When you actually get there and work with the actors, it also has to come from how the scene is actually happening. One can adapt to that as another phase of how the camera plays off action. The camera's movement is essentially dictated by what the actors do, but the camera still takes a point of view in the storytelling.

"In other words, if two actors are talking, do you get them over-the-shoulder, back and forth, purely for dialogue? Or do you shoot from one actor's point-of-view of the other actor and only do pickup shots at the end? Point of view in storytelling has a lot to do with why you choose to show something and how you want to show it. It isn't because I've shot coverage on both actors that the scene says something."

Lachman accepts Godard's loose attitude toward the frame. "I try to break a certain kind of tradition of what a frame is, and I compose for the image itself – not for the frame size of the image. Unfortunately, a lot of our visual language comes from television, like the action always happening in the center of the frame or how people move within the frame. I always want to try and break a certain rigid attitude about size and shape in regard to the frame."

Lachman feels strongly that "the technical apparatus or equipment is there to serve the creative aspects. It's not what you put on the camera, but what you put in front of it. You start with

the script and the director's interpretation, and then it takes work between the director and the production designer and the director of photography to find the elements to tell the story. Light must carry expression further through composition, effects of color, and the use of movement or stasis in telling the story to emotionally set the scene for the characters. In Rosanna's world, the camera was more or less stationary and the action happened within the frame whereas in Madonna's world, we wanted the camera to be more prophetic and move with the characters through her world."

Lachman and Seidelman tried to find a consistent visual language for their storytelling. "All of the exterior night scenes in New York City were in green. I tried to reinforce the mercury vapor feeling one has in the streets. Although the light sources were motivated from the natural light sources and the colors one would normally see in the streets of New York – a slight greenish effect because of so much fluorescent ambient light around – I wanted to take the color further, so as a cinematic experience you would experience the color although you don't necessarily become aware of it. The green I used was a Lee 122 and Lee 124, which is like emerald green, but mixed with a Lee 101 yellow which would be used for highlights in certain places where, let's say, car lights or store windows might be. So even though I exaggerate the color, I don't feel that one senses the colors couldn't exist that way. I like for photography to make a statement or to reinforce the emotional value of what we're perceiving and not just to represent things from a purely naturalistic or realistic level.

"It was all an attempt to give the audience some world that they could enter and respond to on an emotional level, creating a psychological realism – the emotional content for the characters and the story line. I want the juxtaposition of color and framing and movement to carry forth the story line. Images should go be-

yond description and create some kind of vision or landscape or environment for the actors and for the storytelling. The camera created an illusion of reality, and sound completes the perception of that reality in the imagination."

Coming out of independent production lent a certain freedom of approach to Seidelman's and Lachman's initial venture into studio-financed filmmaking. "We tried to create a structure and relationship between myself and Susan and the crew similar to the way we would work on an independent production. I tried to give great freedom to the operator to work with Susan while I was working with the lighting crew. I would let Francis, who is a d.p. himself, work out the actual problems with the movement of the camera. My prior experience had been to do the operating as well as the lighting.

"It was important for Susan and myself to shoot this film in New York. For budgetary reasons there was discussion about shooting in Toronto, but we never really felt that we could create the exterior world of the streets of lower Manhattan and several of the night clubs that we would find in New York. You couldn't reproduce a certain sense of happenstance – of things that you would find and the relationship between objects and light and color and movement. In other words, it's these unaware juxtapositions that create the energy of shooting on

location. I enjoy carrying some of these things further – like the fluorescent and mercury vapor lights heightening our sense of being under the nightmarish, green cityscape of the night.

"When I started using the 122 and 124 gels, I didn't realize that they absorbed so much light. I lost between a stop and a stop and a half, so even though I was using big light sources in my exterior night scenes – I like using as few light sources as possible to cover a large area so I can keep to one or two shadows – I was finding that using 5 and even 10 k's, I was still working at an exterior level of 2.8, with 5294 rated between 200 and 300. I was rating it depending on how much saturation color I wanted and if I wanted the blacks very rich and dark and depending on the other light sources in the scene.

"The other important thing in lighting for night exteriors is the balance between highlights and shadow detail. It's not how you light shadow detail but how you balance highlights to it. When I'm in the streets of New York, I'm trying to balance my lights off of what is existing. So I always use as my reference what the street lights or the store windows are. We had to utilize what existed, which my documentary background could accommodate. At \$5 million, this was low-budget for a studio film, and we worked very fast, shooting in less than eight weeks. I tried to use at night



Atlantic City scene with Madonna at table. Francis Kenna behind camera, Mitch Dubin in front of camera, Ed Lachman and Susan Seidelman at right.

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the biggest light sources I could, off crank evaders and fire escapes because the bigger the light source, the further it will carry. It was important that the light be as high as possible and far away enough to cover a large area.

"Many times I carried cool white and daylight fluorescent, and in the daylight fluorescent I would add either HMI's with half blue to reinforce the daylight fluorescent or when I would use cool white, I would use the Lee green. When I used the daylight fluorescent, I would use a complimentary color of orange, let's say. For example, in the east side terminal, there was primarily daylight fluorescent already in existence. I came in with HMI's and worked with banks of daylight fluorescent. Any place that needed supplementary fill, I corrected the HMI's even cooler. That gave a certain edge in feeling. Whenever I would work with colors with a fluorescent - and the fluorescent would really be the ambient light level - I would just edge light them with a deeper color, say blue, or the HMI with half-blue, and that just gave a little edge to the contrast because generally under fluorescent you get a very flat negative. I also found to expose the negative a half stop to a stop greater under fluorescent light created better saturation and you got a richer color rendition than if you went straight fluorescent and rated the 5294 at 400.

"I experimented with shooting under fluorescent light using different colored gels against the fluorescent light situations. If I knew that I was going to work under cool white and daylight fluorescent and wanted to see what colors would work best against the green or cyan in fluorescent, I used no filter on the lens and didn't have the lab correct. That's why I had to work very closely with the timer. As much as possible in daylight fluorescent, I used the Optimum 50s, but many situations I went with daylight fluorescents, I didn't feel the need to change all the fluorescents. Many

people go with 3200K fluorescent, the Optimum 32s, but to me you lose the whole feel and look of what the differences could be under fluorescent light and tungsten light, and I really wanted to create the different worlds in the cityscape, feeling different colors in different scenes."

Lachman is very pleased that *Desperately Seeking Susan* marked the first feature on the East Coast to be shot with the Moviecama, an Austrian camera available through Camera Service Center. "My first assistant Mitch Dubin had run Zoetrope Studio's camera department and had shot extensive tests on the Moviecama when it first came out. Having a close relationship with Camera Service, I too had been shooting tests with it. The major concern for people was the question of dependability, and I can say without question that we found the Moviecama dependable and problem-free. We used the Moviecama Super, the latest model.

"We found the sound level to be remarkable - under 20 dB. Literally, being next to the camera you couldn't tell if it was running or not without having your eye to the eyepiece. Moviecama has a follow focus system unlike any other, that runs on a cable system rather than gears, so there's absolutely no play. Other points include the matte box system, the viewfinder which is bright and sharp, and the ingenious camera loading which makes threading very fast. The lens mount system is BNC, which gives a greater selection of lenses to pick from. Though in high speed lenses I very much like the Zeiss for their excellent contrast, I went with the Canon Superspeeds and was very happy with them. They gave very rich blacks. Also we used two Cooke zooms; a 20:100 and a 25:250.

"The Moviecama's video viewfinder assist system was a great asset to Susan and Mitch and myself as a check and balance system between us to communicate about the composition or the movement in the shot, which we

would discuss with Tommy Prate. Using the video, I can be more specific with the operator in discussing the shot during rehearsal, rather than relying on the dailies to discuss ideas or corrections. We didn't use video in the sense of having a playback monitor because Susan and I felt that would inhibit time. The video helps me to have more control, and it helps everybody understand conceptually what we're trying to do with a shot.

"The Moviemax system allowed for exposure and speed change in certain special effects shots. With the movie speed system, you can change the frame rate of the camera, and it compensates for the exposure on the lens through a very ingenious coupling system. We were able to do certain special effects from 24 fps normal speed up to 48 and 96 frames and back to 24 again. It automatically changed the speed during the shot and allows you to change the diaphragm.

"Another plug-in accessory, called a computerized diagnosis analysis, could be carried with us and plugged in to determine if the camera was running at the proper speed if the crystal was at the proper reference. It could check out all the camera functions and give a readout which was a great help. The camera was small and compact, needing fewer cases to transport it. The dual pin registration and double-claw pulldown makes it as steady as a Mitchell movement.

"I've always had a close working relationship with Camera Service, and we enjoyed working with them on *Desperately Seeking Susan* because of the support, backup, and cooperation they gave us. They have a full shop, and they were willing to modify equipment for us."

Lachman prefers to use the zone system in rating his film stock. "I placed the face at an 18% gray, which you can think of as a reading made from any uniform luminous surface used directly to determine exposure, will give the

exposure settings that will reproduce that surface as a middle gray in the final print. I wanted to create two distinct feelings in contrast and in saturation of color, and I felt this could be accomplished, not only through lighting, but in the way that I exposed the negative. I would establish my 18% gray scale and expose it on the lens in half stops, three stops on the over side and three on the under side and determine by the printer lights how to balance the rest of my scene. I think that exposure indices can be very misleading because everybody reads their meter in a different way. So many times when I read articles in *American Cinematographer*, people say they rate their film in certain ways, but they should also discuss how they use their meter to determine that, because if one reads an incident reading in one situation and a reflected reading or a spot meter in the same situation, there would be a different value. I light all my interiors with a spot meter because I find it a more accurate way to place the negative. For exteriors I work with an incident meter or a combination of incident and spot. For Rosanna's world, I rated the film at Kodak's recommendation, at 400 to 300, depending on the kind of saturation I wanted. For Madonna's world, I rated it all the way to 200. I used three different printer lights for different situations. By the way the negative is exposed, in conjunction to where it is printed, it affects the contrast and colors. So in the scenes where I wanted the deepest saturation and contrast, I worked at the higher printer lights. You have to be very precise because there's little margin of error. When you work off of what they consider the mid-range to their negative, you're obviously lessening your chances to bring the negative back to the middle or to an area that's safe for printing. This is a specific system that I've worked out primarily because of the way I use reflected light readings. I would say this is the only difference in the way I approach my

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negative or the use of photography.

"I don't like to use any filtration on the lens, and I work very hard to get true tests on a number of different sets of lenses or individual lenses to try to get the sharpest possible image. I try to use diffusion or softness through the lighting. I think the three factors in controlling images for myself are the lenses, the meter, and the lab. These are the three factors that I test extensively before I begin a production.

"Through my tests in using the 5247 for exterior shots, in which I used an 85 filter (and many times I used an 85B, which is slightly an overcorrection), I found that also by underrating the film and working at higher printer lights I got better color saturation. I also used this in my exterior lighting, in which I used HMI's at times.

"Cameramen always think that they have a secret in the way they light a set, but there are no secrets in creating imagery or in

photographing a film. It's always the application of knowledge. There's no situation ever exactly the same, and it's always the application of your gained experience that creates what you're trying to present in a film."

Lachman enjoys going back and forth between documentary and fiction filmmaking. He finds that documentary work helps him learn to adapt and use to his advantage the problems inherent in the environment. "I'm constantly trying to limit what I have in order to become more effective. If there's a general principle, I would say that 'less is more.' It saves on time to limit the technical apparatus that I'm using. Things become simpler because I realize that if I can light something with one light instead of two, it's better. I can be more direct and less comes between me and the subject matter. It also gives more time for the director to work with the actors and creates an atmosphere that gives flexibility, which is important. I'm a firm believer in

one shadow per light source.

"What's exciting and interesting for me about the ability to go back and forth between documentary and narrative form through camera expression is that it heightens my own sense of reality to see the everyday, the commonplace with a sense of perception and awareness that, in a sense, reality is fantasy." He concludes, "I believe that cinematography is a form of storytelling, and I think it can be the strongest part of storytelling – at least in a visual medium of moving images." ■

Jay Padroff has published his film articles in The Washington Post, The Boston Globe, and The Village Voice. In May, he directed his play Crime Story at Theater For the New City in New York, and he is currently in pre-production on his first original dramatic feature, Bureaucratic Affairs, which is being produced through EZTV in Los Angeles.

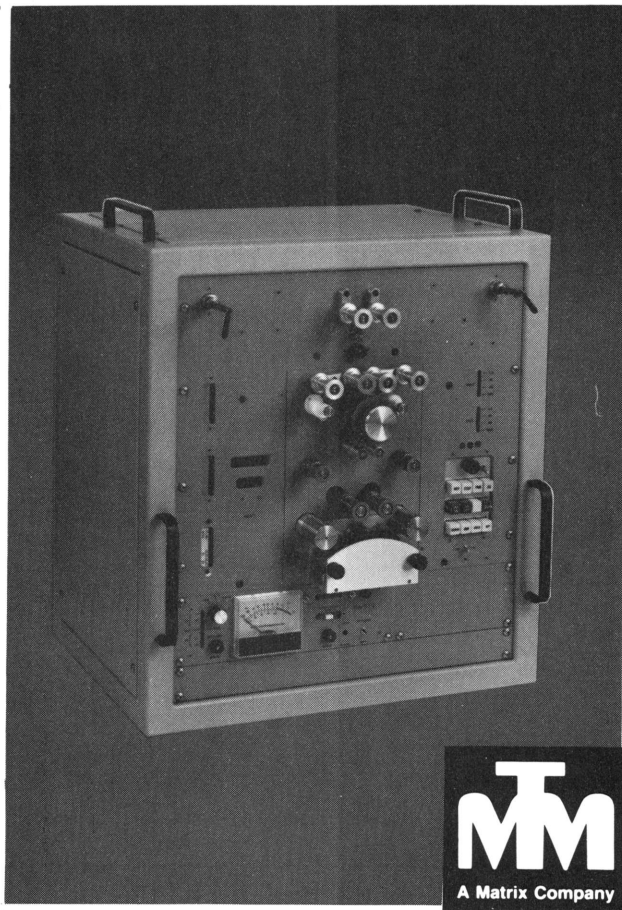
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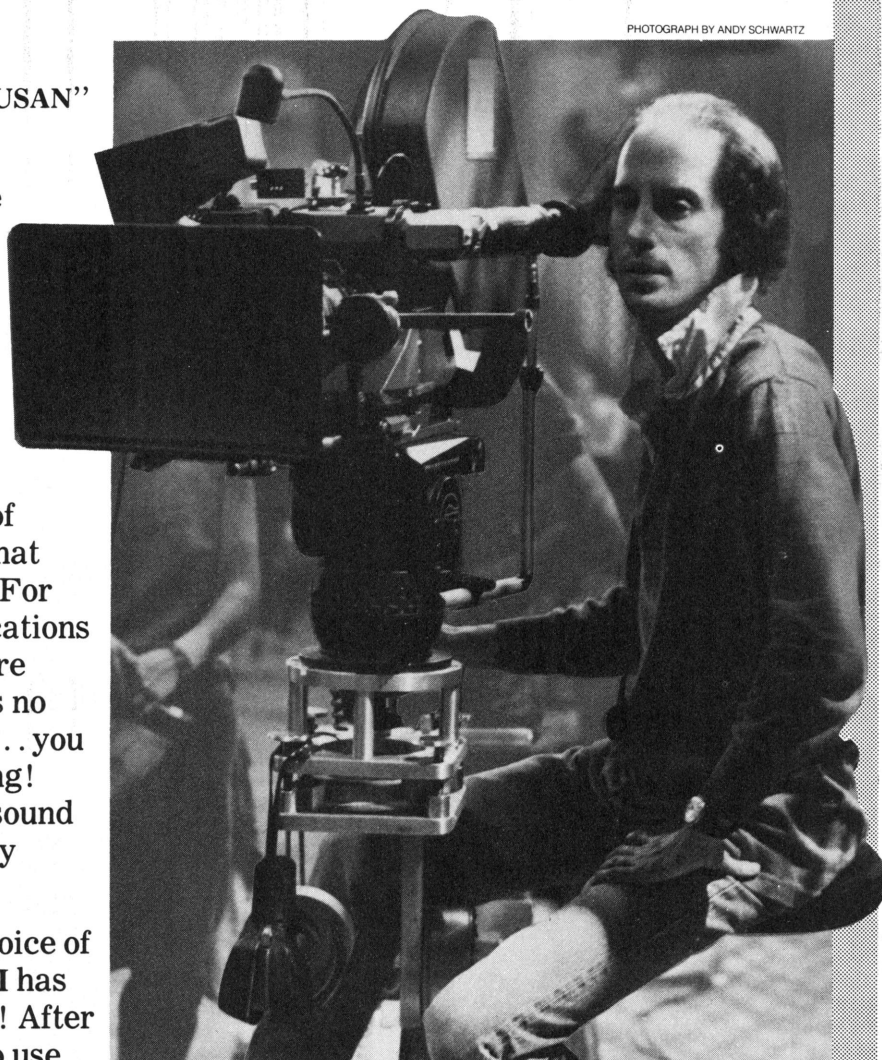
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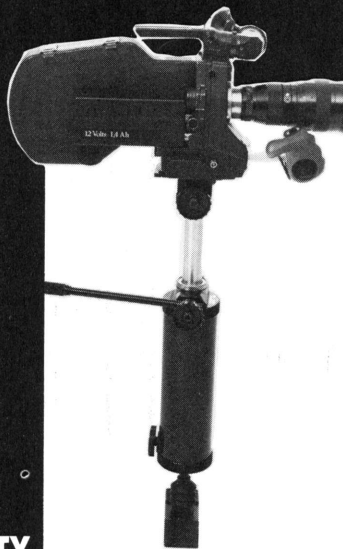
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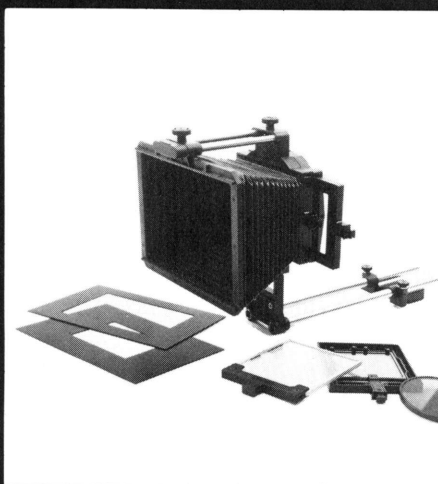
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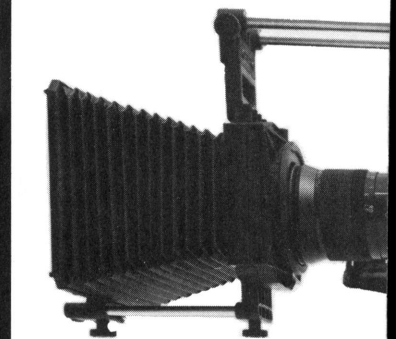
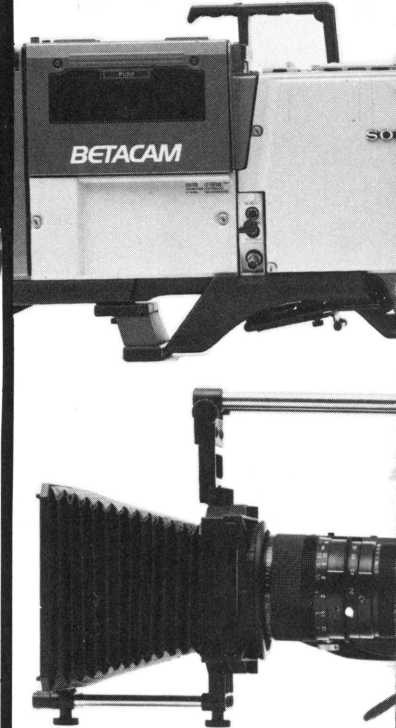
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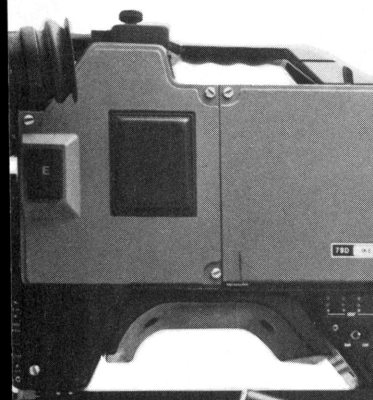
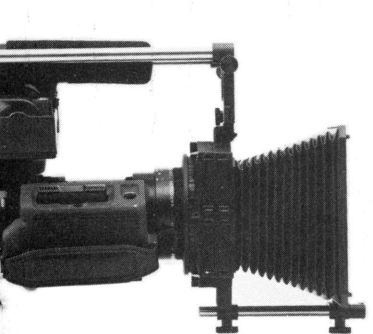
Kingsway matte box systems



FLEXIBILITY

Cam-Rail tracking systems



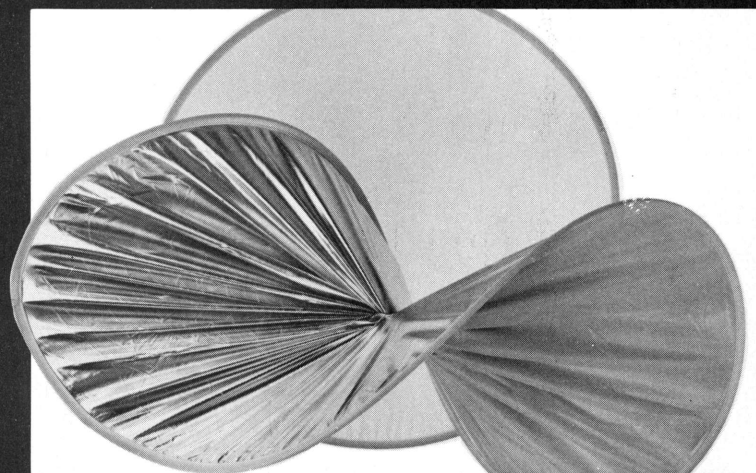


TECHNOLOGY

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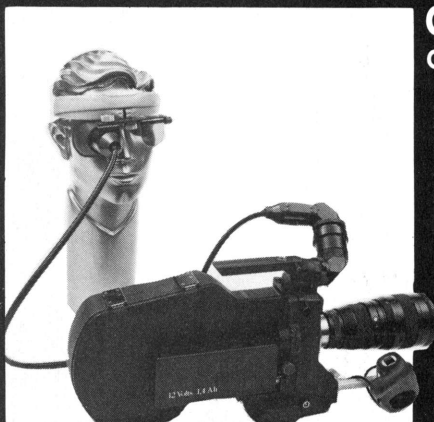
CONVENIENCE

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Cinemasters

George Folsey, ASC

by Marc Wanamaker

*Bing Crosby and
Marion Davies in
Going Hollywood,
1933, at MGM.*





On the set of First National's Naughty But Nice on St. Patrick's Day, 1927. Among those in the front row are assistant directors Alexander Hall and Mervyn LeRoy (5 and 6 from left), Edythe Chapman (7), Donald Reed (8), Colleen Moore (9), director Millard Webb (10), Kathryn McGuire (11), Claude Gillingwater (12), Hallam Cooley (13), and George Folsey (14). Below Biograph Studio, 807 E. 175th St., New York City, in 1913.

This article was compiled over several years of conversations. Wanamaker had initially interviewed Fosley for a documentary he was producing on the studio system of Hollywood.

IT IS HARD TO BELIEVE that George Folsey's career spans from 1914 to 1976, when he was brought back to photograph Fred Astaire and Gene Kelly for *That's Entertainment II*. He had previously photographed several important pictures at MGM, and it was only natural for him to be the one to do the photography.

Folsey had been nominated for more than twelve Academy Awards over the years, beginning with a picture entitled *Reunion In Vienna* in 1932. His other nominations include *The White Cliffs of Dover*, *Meet Me in St. Louis*, *Green Dolphin Street*, *Million Dollar Mermaid*, *All The Brothers Were Valiant*, *Executive Suite*, *Seven Brides For Seven Brothers*, and *The Balcony*. He has been written about as one of the "trend setters" in the gradual switch from harsh contrast photography to the subtler, more softly lighted black and white photography. However, he was a pioneer in many techniques of cinematography as far back as 1920.

Born in 1898, Folsey entered films at the age of 14, at the Famous Players Company in New York City. He began as an office boy and soon felt that the film business was for him.

"It was interesting," Folsey says. "I didn't go to High School; I went right to work. Things



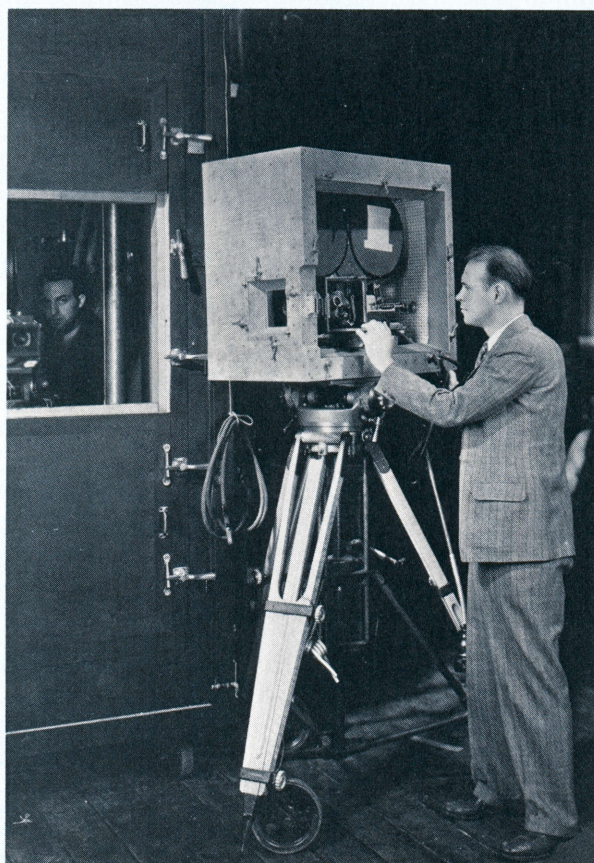
were tough in 1914 and a job with such a company was hard to get. In about two years, when I was about 16 years of age, I became an assistant cameraman."

It was under the direction of H. Lyman Broening that Folsey learned what was needed to be a cameraman. There were several cameramen at the studio at that time, the most important one being Edwin S. Porter. The famous director and film pioneer was a part owner of the company, sole producer of his films,



**Paramount-Astoria
Studio in 1929.
Below**

**Folsey with blimped
camera on the set of
Dangerous Nan
McGrew at
Paramount-Astoria.
Another camera is
set up in a
soundproof booth, or
"ice box."**



and also headed the camera department. When he came back from a long location shoot, he asked for an assistant. Folsey thought that he could get the job, but it was given to another boy. Emmett Williams, a director who was on location at that time, also asked for an assistant to help with the still photography. This time Folsey was given the job. He learned about still photography and how to load and unload the film holders. He almost became Williams' assistant, but the director was called to the West Coast and he lost out again.

About this time, Lyman Broening saw that others were getting assistants, so he too asked for one – and he asked specifically for Folsey. Broening taught him well, and he learned how to load and unload motion picture film magazines, how to do special effects within the camera, and other techniques that would help him secure a career in the near future.

"I began as an assistant to Lyman Broening and would count each turn of the camera crank and keep a log of the frames," Folsey recalls. "This had to be carefully done. After every scene that required double exposures, I would organize this data in two log books as well as on each film can. I had all these numbers to catch and I had to be sure I didn't make any mistakes, because if there was – if it was wrong, they'd have to shoot it all over again. These numbers were important for shooting the special effects in the camera. This applied to even simple dissolves. It amazes me now to think of the trust they put in a 16 year old's hands."

Folsey became an assistant cameraman. His job was to slate every scene, keep track of the footage, load and unload the film magazines and carry the camera and set it up time and time again. They were using the Pathé cameras at the Famous Players Company, and he became very familiar with their use. Under the tutelage of Broening, he did many optical effects within his camera. But it was a few years later that he got the break he was preparing for. When he was 19 years of age, he was given the job of cranking the camera for a foreign negative that would be sent abroad for printing. He was now known as a "second cameraman."

"We would use a second camera to take a negative of the scene that would later be sent to Europe for printing. This was done to save the shipping cost of prints. I ground this camera next to a French cameraman. He had a long mustache and always wore a Sherlock Holmes hat and a long checkered coat. One day he said suddenly: 'I quit! I go back to France and raise violets!' I didn't understand then that he was homesick for his family. The director, Kenneth Webb, said to me: 'Can you shoot the picture?' I said: 'I can move the studio if you want it!'"

The first picture he began to shoot was called *Her Bridal Night*, starring Alice Brady. He had to shoot double exposures in the camera for Miss Brady's double role, playing herself and her sister, but his training stood him in good stead.

"That was my first picture, and Kenneth Webb, the director, had to convince Alice Brady that I could do the job. She was concerned that I was too young. He assured her that if I didn't work out, he would immediately replace me. She decided to give me a chance, and that was the beginning. It was easy after that, due to the fact that she was in love with the leading man, and it wasn't hard to capture that on film. You couldn't photograph her badly; she looked lovely. In about a week, after seeing my work, she offered me a personal contract to photograph her future pictures."



Filming Pusher in the Face at Astoria, 1929. On the platform from left are director Robert Florey, assistant director Edward James, Folsey and the camera crew.

Folsey finally made it as a full fledged cameraman at the ripe old age of 19. During the next few years, he became a freelance cameraman, signing a contract with Associated First National and photographing a few Richard Barthelmess films. The most important of these was *The Bright Shawl* in 1923, with Mary Astor as the co-star.

"Mary Astor was so beautiful; she looked like a piece of Dresden China. We went to Cuba for this film and I can say one thing; I had the greatest time of my life, due to the fact that I had never been out of the country before."

In the early 1920s, he learned all the technical aspects of his job. There were no light meters and no lighting directors. Folsey said of this situation that you simply had to do everything yourself. The cameramen of that day did not always shoot tests of their films, they just shot what was required the first time.

"It sounds risky now, not shooting tests, but we did it and that was that. The film of course had great latitude, it was slow, and reliable."

During the 1930's, he developed his soft lighting techniques. He was experimenting with bounce light, years before it became the vogue. He was interested in trying to light his subjects in films like the famous painters lit subjects for their paintings.

"From the time I became a cameraman, I thought, how the hell could I get my film to look like the famous paintings of the old master artists I saw in the museums. My first experience came when I saw old master artists at the museums using light for all kinds of effects. From that time on I had it in my mind to photograph my subjects with that in mind. I was an ambitious kid, and wanted my scenes to look better than usual. I had trouble figuring this out and went on my own time to art school to learn more about photography."

In 1924, he did the photography for *The Enchanted Cottage*. John S. Robertson was the director and it starred Richard Barthelmess and May McAvoy. The story was of two people with physical deformities who fall in love and move to a cottage in the forest. Barthelmess plays a wounded soldier and May McAvoy plays a horribly ugly girl. In this cottage strange events take place. One of the effects that had to be photographed was when Richard Barthelmess looks at May and sees a 'vision' of a beautiful woman in the haunting moonlight.

*Shooting from an "ice box" for **Gentlemen of the Press**, 1929. Sitting by the booth is Millard Webb, director, and the lens is focused on Walter Huston and Betty Lawford.*



"She was wearing make-up that made her look ugly. She had buck teeth, broken nose, and ugly hair. I created the effect of her turning into a beautiful woman by using a still camera alongside the motion picture camera. We made a six foot fade out with May in her 'ugly' make-up. When we faded out on her looking straight at the camera, I told her not to move and I traced out her features with lines on the ground glass of the still camera. I then removed her from the set. She then took off all her make-up and returned to the exact spot in the ground glass. She of course looked lovely. I said, 'Don't move!' and began to crank my camera and faded in with a lap-dissolve. When the director, John Robertson saw this scene, he said, 'George, this is absolutely wonderful!' I was about 23 years old at that time. It was a big sensation, because she had changed right in front of your eyes, there wasn't a hair out of place and the audience got a real kick out of it, they didn't know what I had to do to get the effect, but it didn't matter, the illusion was there."

Foley had been working for First National during this time and they had used mostly Eastern studios. One of the studios he remembers was

the famous Biograph Studio at 175th Street in the Bronx New York. They had been leasing the studio for several years until their new studio was built in Los Angeles in the area known as the Barham Ranch. Today, the Western studios of First National are The Burbank Studios. Foley had been sent West to work on several films. In 1929, on returning from the West Coast after his contract with First National expired, he went to the Paramount Astoria Studios to say hello to his friends and see what was going on there. At this time sound was a new thing and the studios had been gearing up for it. After meeting with some of the production personnel, he was hired to do a picture. But the 'one' picture turned into several, all shot at the studio in late 1929-1930. *Applause* was to be one of his most beautiful films. Directed by Rouben Mamoulian, the film starred Helen Morgan and Joan Peers. The critics of the day said of Foley's work, 'remarkable photography.' Before he could take stock of what he did, he was on another picture. One of the reasons that he was in such demand at that time was that he knew about the "new" lighting - incandescent lighting. George had picked up the techniques of shooting with such light on the West Coast while with First National. But the main problem was not lighting, it was *sound!* At this time the studio



had just been equipped with sound apparatus. New problems were created when the camera noises were picked up by the microphones. It was up to Folsey to solve this crisis. On *Applause*, as well as the other new pictures that he was to photograph, the problem of what to do with the camera, was paramount. Special booths had to be built around the cameras as well as the cameramen. This was complicated with the problem of what to do with the lights, and how to move the booth from scene to scene.

"We had to build a booth around the camera after each set-up. Eventually we built a booth on wheels and I set the lights on the booth itself to make it easier to move from scene to scene. Joe Ruttenberg was my camera operator. We got along just

wonderfully. We had no problem at all working together; in fact, I needed all his input, due to the monumental problems we were faced with."

Finally came the film that Folsey will never forget. It was entitled *Cocoanuts* and it starred the Marx Brothers. The problems he was used to were generally technical. But with the start of filming on *Cocoanuts*, he was faced with a more unusual problem – keeping the Marx Brothers within his camera range; it was hard to contain them.

"About the Marx Brothers, well, they were crazy!" Folsey explains. "They were remarkably complex people, especially to work with. For one thing we tried to shoot rehearsals, but this proved to be

The Marx Brothers—Zeppo, Groucho, Chico and Harpo—in The Cocoanuts (1929), their official screen debut.



Tom Drake, Judy Garland and Margaret O'Brien in one of the most celebrated Technicolor pictures, MGM's *Meet Me in St. Louis* (1944).

impossible because the crew would fall down laughing and we could never have silence on the set. So we had rehearsals to get all the mirth out of the crew, so that we could finally take a shot. Also they were very difficult to keep track of. At the end of a scene, they would disappear! It took a team of assistants to find them. On the second picture, *Animal Crackers*, the director placed their portable dressing rooms on the stage and they were watched constantly, like prisoners."

The Astoria Studio was where Folsey felt at home for several years. He was active there during the years of 1929-30. He worked there with director Robert Florey on several short three-reelers, one being F. Scott Fitzgerald's first photoplay, *The Pusher in the Face*. He was later asked to do more features there, becoming very popular with the directors on the East Coast.

By 1932, he went to MGM Studios to make *Reunion in Vienna*, for which he received his first Academy Award nomination. He later was the director of photography on *Going Hollywood* also made at MGM starring Marion Davies and Bing Crosby.

During this time, Folsey's interest in 'bounce light' was developed. At MGM, the head of the laboratory, Jack Nickolaus, increased the speed of the developing machines, resulting in bringing out more contrast in the film. The finished product posed different

problems, but Folsey, with his inventiveness created new techniques in the field. He hung large silk sheets and diffusers in front of the lights, creating an effect of soft light. He had to increase the amperage in the lighting to compensate. The results were exceptionally good. Folsey had what he wanted. From the early thirties and into the 1940's, he was known for his bounce light inventiveness.

His career was assured now, and after several years he worked on some of MGM's more important color pictures which are now classics in their own right, such as *Meet Me in St. Louis*. When asked what it was like working with Technicolor, he answered in a most positive way:

"I had been working with the Technicolor Company 'way before my work on *Meet Me in St. Louis*. There was never a problem in working with them. They didn't interfere with my work, they just helped me get better results. They advised me on how much light I would need for best exposures. They wanted to have a net under you. We had a lot of respect for each other and they taught me a lot about color film in general. Mrs. Kalmus herself came on the set many times with the colorist to make sure that we all got the best quality in our exposures."



Foley and Angela Lansbury between takes of State of the Union (MGM, 1948). Below Foley and Lana Turner at MGM, 1950, on the set of A Life of Her Own.

By 1947, Foley was shooting another classic film, *Green Dolphin Street*, for which he was nominated again for an Academy Award. It was for this film that he tried out his most ambitious experiments with reflected light.

"People said that this film was a breakthrough with reflected light. I was interested in bounce light techniques for many years, as you know. But with this film, I had a lot of latitude to work with. I would bounce the light off of big silk sheets placed around the set. They all talked about reflected light being a new thing. I laughed, because I had been experimenting with it long before it became a 'new' technique. But I put myself on a limb and I'm glad it paid off."

In 1954, he was again nominated for his work on *Seven Brides for Seven Brothers* at MGM. He was now working not only in color but with Cinemascope. He used two different kinds of Cinemascope cameras on booms to shoot the scenes, saving time and trouble. Then came *Forbidden Planet* in 1956. Foley said that this film was one of the most interesting he ever worked on. It was all shot inside stages and everything was done as he used to do in the old days when special effects were made in the camera. In 1963, he was again nominated for his work in *The Balcony*. Recently, he spoke about the early days when he began in the business:



George Folsey Filmography

1919	Her Bridal Night	1938	Arsene Lupin Returns
1920	The Fear Market		Hold That Kiss
	Sinners		The Shining Hour
	The Stolen Kiss	1939	Society Lawyer
1921	Frisky Mrs. Johnson		Fast and Loose
	The Education of Elizabeth		Lady of the Tropics
	A Heart to Let		Remember
	The Price of Possession	1940	Third Finger, Left Hand
	The Road to London		Two Girls on Broadway
	Room and Board	1941	Come Live With Me (with Charles Lawton, Jr., ASC)
	Sheltered Daughters		Free and Easy
1922	A Game Chicken		The Trial of Mary Dugan
	The Case of Becky C.		Lady Be Good
	Nancy From Nowhere		Married Bachelor
	Radio-Mania (Mars) (3-D)		Dr. Kildare's Wedding Day
	Slim Shoulders	1942	Rio Rita
	What's Wrong with the Women?		Grand Central Murder
1923	The Bright Shawl		Panama Hattie
	Twenty-One		Seven Sweethearts
	The Fighting Blade		Dr. Gillespie's New Assistant
1924	Born Rich		Andy Hardy's Double Life (with John Mescall, ASC)
	The Enchanted Cottage	1943	Three Hearts for Julia
1925	The Necessary Evil		Thousands Cheer
	The Scarlet Saint	1944	A Guy Named Joe (with Karl Freund, ASC)
1926	The Half-Way Girl		Meet Me in St. Louis
	Too Much Money		White Cliffs of Dover
	The Savage	1945	The Clock
	Ladies at Play		The Green Years
1927	Orchids and Ermine		Ziegfeld Follies (with Charles Rocher, ASC, Sidney Wagner, ASC)
	See You in Jail		The Harvey Girls
	Naughty But Nice		Till the Clouds Roll By
	American Beauty		The Secret Heart
	No Place to Go	1947	Green Dolphin Street
1928	Her Wild Oat		If Winter Comes
	Lady Be Good	1948	State of the Union
	Butter and Egg Man		Take Me Out to the Ball Game
1929	Glorifying the American Girl	1949	Adam's Rib
	The Letter		The Great Sinner
	Hole in the Wall		Malaya
	Pusher in the Face	1950	A Life of Her Own
	Gentlemen of the Press		The Big Hangover
	The Cocoanuts	1951	The Man with a Cloak
	Applause		Night into Morning
1930	The Laughing Lady		Vengeance Valley
	The Big Pond		Mr. Imperium
	Animal Crackers		The Law and the Lady
	Dangerous Nan McGrew		Shadow in the Sky
1931	Laughter	1952	Lovely to Look At
	The Smiling Lieutenant		Million Dollar Mermaid
	Honor Among Lovers		All the Brothers were Valiant
	Stolen Heaven	1954	Men of the Fighting Lady
	Secrets of a Secretary		Tennessee Champ
	My Sin		Deep in My Heart
	The Cheat		Executive Suite
1932	The Wiser Sex		Seven Brides for Seven Brothers
	The Animal Kingdom	1955	The Cobweb
	Misleading Lady		Hit the Deck
	The Big Broadcast	1956	The Fastest Gun Alive
1933	Men Must Fight		Forbidden Planet
	Reunion in Vienna		These Wilder Years
	Storm at Daybreak		The Power and the Prize
	Stage Mother	1957	House of Numbers
	Going Hollywood		Tip on a Dead Jockey
1934	Chained	1958	The High Cost of Loving
	Forsaking All Others (with Gregg Toland, ASC)		Saddle the Wind
	Men in White		Imitation General
	Operator 13		Torpedo Run
1935	Page Miss Glory	1959	Count Your Blessings (with Milton Krasner, ASC)
	Kind Lady		Cash McCall
	Reckless	1960	I Passed for White
	I Live My Life	1963	The Balcony
1936	Hearts Divided	1970	Glass Houses
	The Great Ziegfeld (with Oliver T. Marsh, ASC)		
	The Gorgeous Hussy		
1937	The Last of Mrs. Cheyney		
	The Bride Wore Red		
	Mannequin		



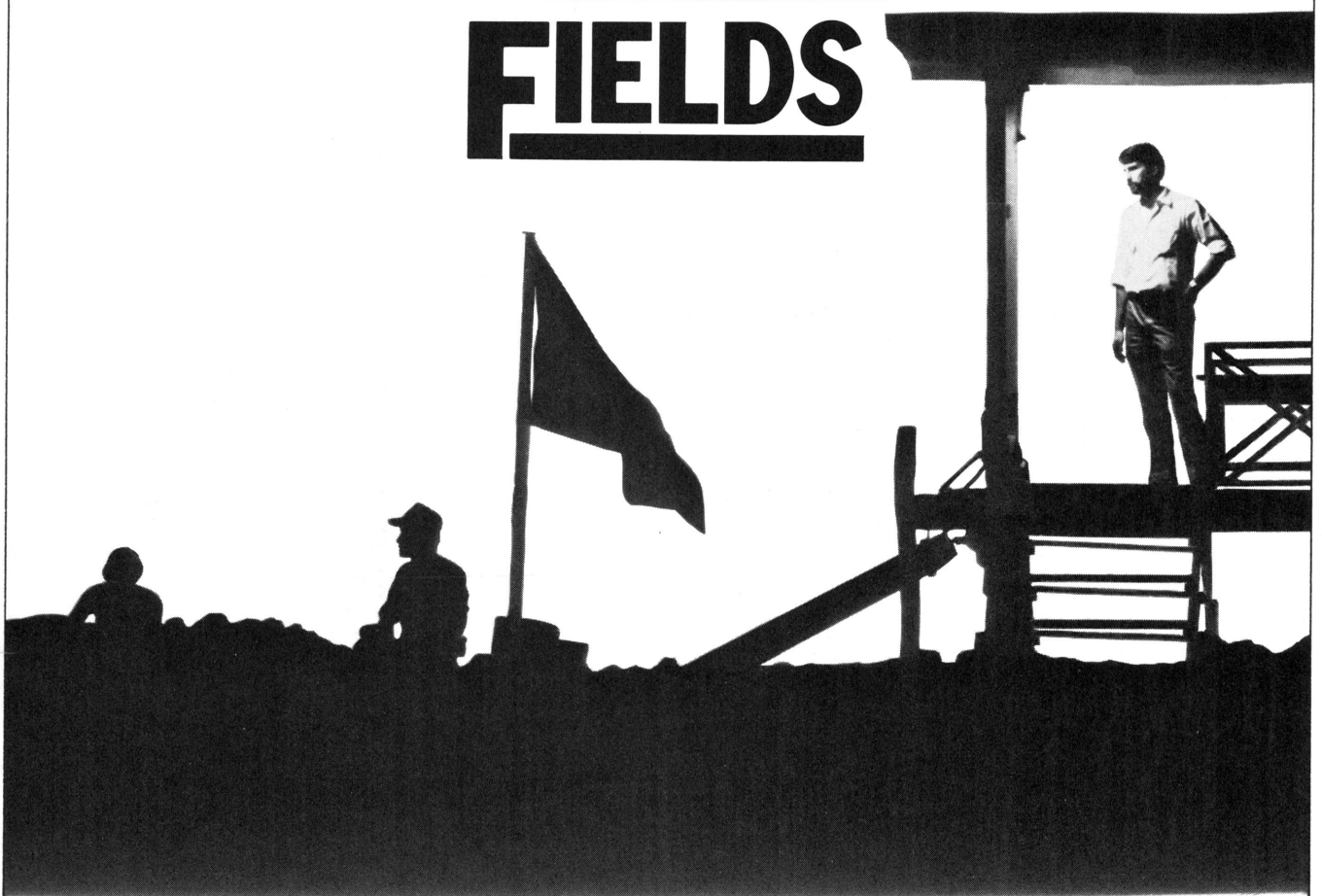
"I had a long career. You know, my family, during those early years wanted me to quit the film business and go into insurance. My parents thought the business of film making would not be steady work for a young man. The funny thing is that I worked almost consistently since I was 14 years of age, until now. I was only out of work for a few weeks at a time during my whole career. It is quite amazing. Over those years I had been to many places, seen many things and accomplished a great deal. I couldn't think of any better job for me than what I did all these years. I am also proud of the fact that I tried to get reflected light into films, which gives them an unusual quality. It gives my pictures a brilliance that reminds me of the paintings that I saw in the museums over the years."

Indeed, George Folsey has given much to the work of the cinematographer. He is a true artist and one of the pioneers of the visual arts. He wanted to discover what the old master painters used to give their works of art a timeless permanence. He succeeded in applying an age-old view of art to that of the film.

In cinematography, as in other fields, experimentation and inventiveness was and still is the backbone of the creative process. Nothing is constant in cinematography; there are no techniques that can't be further developed. It was people like Folsey, Broening, and all the other pioneers of the camera, that give the newcomers of today a heritage to stand on and a place to continue the great work of the past. George Folsey, for his contributions to the development of the motion picture, will stand among the greats of cinematography in the motion picture industry. ■

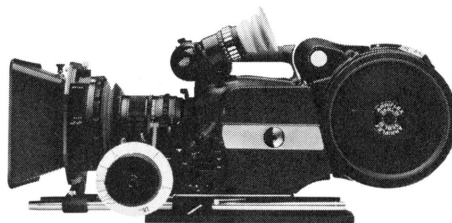
Chris Menges, B.S.C.
1984 Oscar Winner Best Cinematography

THE KILLING FIELDS



FILMED WITH ARRIFLEX 35BL-3 CAMERAS AND LENSES

ARRI
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Tales From ***SILVERADO***

By Samir Hachem



*Danny Glover as
Mal.*



Photos by Rick Rapoport and John Hamilton

Until the sudden flurry of productions which erupted last year in simultaneous attempts to revive it, the Western has been all but dead in Hollywood. Aside from the infrequent esoteric ode or the exploitation cheapie which popped up here and there, the Western as a genre had been as good as dead. It has been said that science fiction was the big offender, lifting from the Western its preoccupation with strong morality and its stories' stark simplicity in yarns that reinforced action over intellect.

Now the Western is making a comeback, and within a few months we have on our screens not one, but four cowboy movies – two of them tongue in cheek, and two of them straight. There are Hugh Wilson's *Rustler's Rhapsody*, and Paul Bartel's *Lust in the Dust*, Clint Eastwood's *Pale Rider*, and Larry Kasdan's *Silverado*.

Kasdan differs from the others in that he is the young film lover who brought back delicious life (not to mention millions of

dollars) to the genres of the adventure serial (by writing the Indiana Jones chronicles), and the *film noir* (in his directorial debut, the steamy *Body Heat*). He is also a director and writer who understands (with wry wit and a smart heart) this era called the eighties, as he showed us in *The Big Chill*. Now what better choice to conceive and realize a contemporary commentary on the myths of the West and the Western, through an actual Western epic entertainment?

Kevin Kline as Paden.



Above, *The town on Silverado*. Right, the crew between takes in the real town of Turley.



Cinematographer John Bailey, ASC, production designer Ida Ransom, and editor Carol Littleton think no one is better suited for the job than Larry Kasdan. The three had, in fact, shot, built and cut Kasdan's previous picture, Academy Award-nominated *The Big Chill*.

Working on the \$22.5 million Columbia feature, which was entirely made in and around Santa Fe, New Mexico, this past winter, was a true test of dedication for its many workers. They had not only to persevere through freezing temperatures and unusually high wind chill factors, but to deal with adobe structures turning into mud, and sudden storms of undesirable snow. *Silverado* was originally planned as a summer picture, and would have looked very different had it been shot at that time of year. Due to budgetary limitations from the studio, and at one point its going into turnaround, the film's starting date was delayed and it became a winter picture, a hard winter picture at that. As a result, the film gains a formidable look of desolation. Its land is not lush, but harsh instead. Its buildings, except for a couple of rare exceptions, are stark and muted. Its actors wear bulky earth-toned clothes, and from their mouths comes vapor along with the usual witty Kasdan dialogue.

That the landscape should dictate the look and texture of a film suits John Bailey just fine. Bailey belongs to a new breed of fresh American cinematographers worldly in their vision and eclectic in their style. If anything, his highly commended work up until now, in movies as varied as *American Gigolo*, *Cat People*, *Without a Trace*, *Ordinary People*, *Racing with The Moon*, *Boulevard Nights*, *The Pope of Greenwich Village*, *The Big Chill*, and the upcoming *Mishima*, defies classification or comparison. It is to his credit that he serves the visions and perspectives of each director and each narrative, accordingly.

Bailey is also a craftsman who loves the arts and is admittedly influenced and inspired by

them. Between assignments, he studies photography and art books; he goes to museums; he soaks up textures and colors. It's not about the technical tricks, he says. "That's not what is important. It's understanding the material and the drama and the emotional moments in the evolution of a film. It's finding a visual style that supports the drama that's difficult, not the mechanical stuff. There is no magic to it, no bag of tricks. It's all become accessible."

In attempting to find the right tonal rhythms for *Silverado*, Bailey ran the gamut in choices from the traditional ways of shooting a Western to the more popularized recent tendency to sepia-tone it. He rejected them all. Two curious things happened to the young cinematographer, however. Shortly before beginning *Silverado*, he went to the "Van Gogh in Arles" exhibition at the Metropolitan Museum in New York. He was very taken by what he calls the dramatic and emotional values certain colors had, certain earth tones in particular. It renewed for him a strong sense of color, something, he says, he had strayed from. In addition, the film's very first location, Ghost Ranch, which is the home terrain for Georgia O'Keeffe and her celebrated paintings, was a spiritual odyssey for the impressionable Bailey.

"To discover in the rock faces the palette of earth tones as they were represented in her paintings, the layers of clay colors, the ochres, the bands of green; that she didn't create them, just represented them, that was very stunning," he says. Similarly, he tried to be as faithful to the rugged multi-colored landscape as he found it. That is why *Silverado* looks so saturated and rich. "The key to that is very dark blacks," he explains. "In the day exteriors, we tried to keep it very clean, clear and sharp. I felt a responsibility to capture that palette. I find that strong blacks are the basis for strong whites, and the foundation for exploiting all other colors."

Silverado night exteriors are distinguished for a very deep



Top, Emmett (Scott Glenn) stops for the night en route to *Silverado*. Left, Paden, light on his face. Below, Kline and Linda Hunt share a toast.



Goldblum, Joe Seneca and John Cleese as good and bad men and women working the land, drifting on it, protecting it and fighting for it. There are strong loyalties and bonds established in the beginning of Kasdan's action-packed tale. Eventually, those bonds (between the four leading men) are tested as they face up to corruption, temptation, revenge, and what is perhaps one of the most galvanizing relationships between a woman and a man to ever be depicted in an American film, let alone a Western.

"Each character has his or her own relationship to the land," Bailey says, "and it's about how each character faces the land and deals with the land. The physical setting is very much at the heart of this film." The natural geology of the area chosen for locations (Tent Rocks, Pecos River, Ghost Ranch, the Rio Grande River, Cook Ranch, Eaves Ranch, and the Tesque and Nambe areas) was rugged and powerful. There were sand spires and cold streams, hollow caves and a majestic desert. Everything stressed the hard edge and the difficulty of such a survival.

"Larry wanted to work with the genre of the American Western, with the American myth," says editor Carol Littleton, "so our heroes are heroic but real as well. We're not portraying it as a time lost forever - John used very little diffusion - and the filmmakers never judge the material, never try to get smarter. The film asks its audience to join the material, to accept it and participate in it. Everybody had the idea from Larry that what he wanted to achieve was a realism, so when you see a ranch or a farm house, it's real, but it becomes an archetype of a ranchhouse, so there's hyper-realism too. It's a modern eighties comment, in the classical meaning of comment, on the myth of the Western and the West, through a Western. (The characterization of black characters, women, and humor is very modern, for instance.) In tone, it's an arena of idealism, certain values of family,

Above, John Bailey, DP and camera operator, Lou Barlia filming over the Rio Grande River. Right, homesteaders crossing the river. Below, Bailey in Santa Fe.



black night fall, whereas the day exteriors boast that magnificent deep blue sky which O'Keeffe and Southwest American Indian artists have depicted superbly.

But the blue was a real problem, says John Bailey. "I preferred it when it was less blue and tried to burn it out by overexposing it, using it as back light, using

graduated filters. Film is sensitive to blue, and the saturation of blue is just very hard to control." When a color field is that strong, he explains, it's very hard not to have your eye distracted by it. Consequently, sequences shot in this deliriously blue sky drowned out the faces of the principal actors. Bailey employed polarizing filters and graduated filters to darken the skies. But sometimes, "I tried to emphasize it and exaggerate it, when I felt the director's point was to do just that."

An ensemble picture, in the tradition of *The Big Chill* before it, *Silverado* stars Kevin Kline, Linda Hunt, Scott Glenn, Danny Glover, Brian Dennehy, Kevin Costner, Rosanna Arquette, Jeff

justice and certain choices in life. As Americans, we all correspond to that magical time. Even though it was a very short time in our history, it's rooted in our psyches, a strong sense of morality, rugged individualism, a sense of innate justice. People who emigrate to America are generally optimistic; a frontier exists in our minds still."

To guarantee realism, production designer Ida Random hit the research books (150 of them), and the studio backlots (sadly under-stocked as far as Western props and set dressing are concerned). She found out that when settlers built a new town, they usually painted the fronts of buildings, and kept their sides unpainted (since they never knew if it was going to be a ghost town, shortly), that they liked wall paper, and that they tended to prefer steel gray and sea green tones overall.

Random designed and built 56 buildings and building fronts (pared down to 42) for the town of Silverado. They boasted interior textures of wood that was glazed, grained and aged. Floors were maintained at an even level to allow for smooth dolly movements, and overhead lighting was rigged. "The greensmen, in planting the trees, had to hide telephone poles and highways on the horizon," she recalls, "and we had to wait for jet trails in the sky to separate." Some of the adobe structures she built turned into mud after rain storms hit; houses fell as much as two inches into the ground on one side; snow had to be scraped off the ground by blow torches one day, and recreated by special effects and gypsum, on another.

Basically, *Silverado* is an action picture (Littleton muses that "our men are braver than they are smart." An often heard line among them goes something like this: "I had no choice. I had to kill him.") In designing the vast town of Silverado and a couple of smaller towns that the heroes pass through on their way there, in addition to ranches, caves and the like, Ida Random had to keep the



word "action" in mind. The assorted buildings and building fronts, the barns and fences and transplanted trees all had to accommodate the intricate choreog-

raphy of horse chase scenes, fires, shootouts, cattle herding and river crossing. "I did a town plan, a grid of the streets and the shops on them," explains the production

Emmett finds Paden in the desert. Brian Dennehy as the unscrupulous Cobb.



designer whose other films include *Body Double*, *Irreconcilable Differences* and *The Big Chill*. "And because many of them were facades braced from the back, we had to agree on the camera angle's finished position, for, say a chase scene, where the camera can finish, without revealing the backs of things."

Because *Silverado* is shot in extreme wide screen, "and because there's a tremendous depth of field," customarily, more was seen than required attention. "You have to find a way to single out the principal characters," says John Bailey. "I tended to light them with a little stronger keys. It became necessary to use theatrical elements, and since the Western is

already stylized and a mythical genre, the elements stress the heroism and larger-than-life aspects of the story."

In an otherwise subdued saloon (Stella's "Midnight Star Saloon"), lacking the stereotypical flashy feathery girls and flamboyant velvet curtains, Bailey surprisingly elected to use smoke. "I don't usually," he quickly explains, "because smoke flattens out color and turns blacks to grays, but here we needed to separate the main actors from the action surrounding them. Not much had single source lighting. I used a lot of multiple keys to enhance the various principals."

Bailey frequently likes to utilize a strong eyelight, lighting through the lens to catch the iris of the eye and highlight it. He has said that the eyes are the windows on emotion. He used an eyelight on *The Big Chill*, and, not surprisingly, with all the actor-directors he's worked with (Robert Redford, Jason Miller, Richard Benjamin, Tony Bill). But not as much on *Silverado*. "Larry has a wonderful way of showing a person in

conversation, presenting his philosophy." Many are the shots depicting Kevin Kline and Linda Hunt discussing their moral views and admiring each other's attitudes. (When upon first receiving him in her saloon, Hunt walks up a ramp behind the bar so she can be at eye level with her guest. His eyes, and a rather tricky combination dolly-boom move of the camera, follow the diminutive body down to the source of its elevation. Hunt: "Life is what you make of it, friend. If it doesn't fit, you make adjustments.") Since the period lighting is supplied by oil and kerosene lamps, faces tend to glow with a golden warmth. "A point that is only said in dialogue and not shown in image," notes Bailey, "is not strong at all."

As much as it highlights the shootout, the showdown and the chase, *Silverado*, like any Western worth its salt, also emphasizes the tools of survival and the fight. There are many carefully planned close-ups of rifles and shooting targets and gun holsters and horses' hooves. "These ob-

jects," says Bailey, "are embodiments of the whole personality and spirit of their owner. Paden (the Kline character) regains his identity when he gets his hat and gun and boots back. There is a certain tension in these tools of survival, and they give the film a real texture. They're symbols, not just props." One learns from shooting commercials, he adds, how important the lighting of an individual object can be.

Ironically, Bailey, who is an ardent enthusiast for the organic *mise-en-scene* (scenes unfolding in real time, without cuts), is fully prepared to justify the dynamics of a montage sequence, like the one depicting a rifleman preparing for a gunfight. "I felt it was important to build the tension. We see him go through a ritual, grabbing the belt, the rifle, pulling the holster. Then when you cut to the wide, the ritual is complete, and there's a gratification in that."

Otherwise, the film only includes two extreme close-ups ("chokers," Littleton calls them). They occur at the tail end of some very theatrical low angle shots of the good guy and the bad guy when they are finally confronted at a showdown. "Goodbye Paden," says one. "Goodbye Cobb," says the other. And bang, bang!

Littleton believes that when dealing with the demands and pleasures of the large screen it is a true injustice to limit one's choices to close-ups, out of consideration to the eventual TV airing. So much of theatrical editing, she says, has been adversely influenced by the television screen. "We have so many other tools in editing besides the size of the image. I use the close-up very sparingly, and for special moments. There are other means to use; there's a moving camera, pace, how much you use in reaction shots, the use of sound. Very important is the use of sound."

Nominated for an Oscar for her work on *E.T.*, Carol Littleton has also edited *Body Heat*, *The Big Chill* and *Places in the Heart*. She is one to have a deeply



felt regard for well written screenplays ("You can only improve on a good screenplay, but you can't better a bad one."), and one to understand the pictorial considerations of the image—how two shots are juxtaposed, when and for how long.

In rejecting the notion that he has a set cinematographic style, John Bailey notes that he has been told by some that his way of moving the camera (which is distinct for its emphatic force), as well as his compositions (marked for their formalism) have established for him an individual stamp. "I don't strive to do that," he says in self defense. "I know when and

why I move the camera, but I don't think of it as style."

"What I do," says Littleton, (who is married to Bailey) "has to do with which aspect of the story needs to have its way and at what time." She says she resents the kind of cutting that "jerks people around," manipulating their feelings and showing off in the process. "You have to follow the logic of the story, and you adjust according to the musicality and rhythms of performance. You never know which performance is going to own its own weight in the film. The relationships change in relation to how it's performed."



Glenn, Kline, Glover and Kevin Costner ride away. Below, Glenn rides alongside wagon train.



A cinematographer can do lighting tests; actors can arrive early for rehearsals; a production designer can try to outguess the weather. But it's always true that a film acquires a life of its own.

What the director and the director of cinematography try to do while on the set shooting, is to attempt to capture a moment of emotional truth, a dramatic moment of truth. The editor's true calling, says Littleton, is to preserve that. "In the weaving of the film's many canvasses, *Silverado* seemed to arc in a certain way—its own." ■

Samir Hachem is a freelance writer whose work also appears in Millimeter and Horizon.

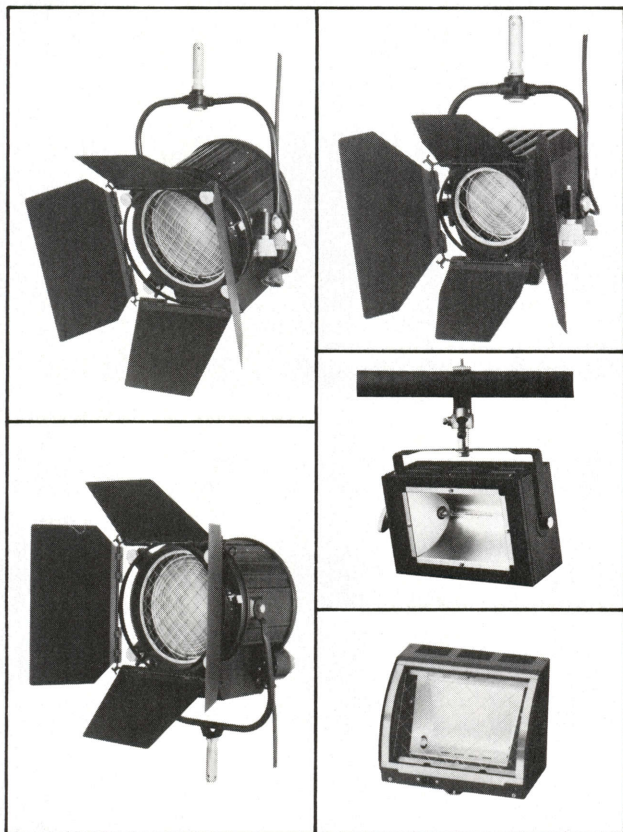
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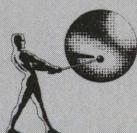


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What's Cooking in

The magical Bauble lights the way as Princess Eilonwy enters the dungeon through a secret passage to rescue Taran.



by Joe Adamson

"Whosoever uses the Black Cauldron for evil will be all-powerful, for my blood will flow with his, and together we will either rule the world or destroy it"

— The Curse of the Black Cauldron

The secret lies smoldering in deep underground grottos, guarded by alchemists and their trolls, who murmur furtively about The Old Ones and struggle tirelessly to recapture their knowledge, their formulas for distilling gold that have lain fallow these many years amid the deafening whir and clank of Ancient Devices, who groan under the weight of their New Tasks and strain to keep up with a world with no more time for the miracles they once produced on command.

The story of *The Black Cauldron* is something else. It's the story of Taran, an assistant pigkeeper in medieval No-Man's-Land, who's got to keep the ancient Black Cauldron and its powers out of the hands of the Horned King, who will put it to uses he would shudder to think about.

The camera negative for *The Black Cauldron* is like no other on earth.

Of course, like every Disney animated feature since *Snow White* in 1937, this color movie is being recorded on a Plus-X black and white negative, in what the Disney Studio calls its SE, or successive exposure, process, a variation on the old Technicolor

separation concept, but with the three black and white exposures of each frame (photographed through three separate color filters) recorded successively on the same strip of film, rather than on three separate rolls contained in three separate cameras.

And, like no Disney feature since *Sleeping Beauty* in 1959, *The Black Cauldron* is being released in Technirama, meaning that these successive exposures were recorded *vertically* on the Plux-X in the camera with a 1.5:1 squeeze, to be unsqueezed later and rotated to the proper horizontal angle to make the 65mm interpositive from which 65mm dupe negs and 70mm release prints are struck.

THE BLACK CAULDRON

But, like no Disney or any other feature prior to *Black Cauldron*, each matte frame for scenes requiring composite printing is recorded immediately after the corresponding frame of the basic shot, since it requires little more than adjusting the lighting and the cels of the same set-up, and you can't beat the registration you get by shooting them both in conjunction. The two images can then be composited at the inter-positive stage, using 65mm printers not in existence two years ago.

So to look at the camera negative of *The Black Cauldron* is to see six successive widescreen black and white frames, all looking like male and female cousins of each other, trailing along sideways like squashed boxcars at a crossing, on a single strip of 35mm film.

This is explained by Phil Meador, rattling off emulsion numbers and flow chart steps like a pitchman selling second mortgages. Phil is a second-generation Disney man, the son of animator Joshua Meador, whose American backwoods genius graced *Pinocchio*, *Bambi*, *Peter Pan*, and *Sleeping Beauty*, and who'd come down out of the Ozarks with an accent so thick he said "pilot neff" when he meant "pallet knife," and the running gag at the studio was that his real name was Meadow, only transformed to Meador when he tried saying it out loud.

The difference between Josh and his son Phil, – keeping twenty films and their respective release dates, emulsion numbers and aspect ratios in his head at once – is the difference between Disney Studio's beginnings and its survival in the 80s.

Today, when Patty Peraza lays out the effects animation on the vision conjured up out of a washbowl in one of the opening scenes, her job requires more than the effective animation of visionary images out of the depths of the water in the bowl, it necessitates the balancing and sandwiching of visual elements that must overlap, overlay, underpin, accentuate, matte, distort and diffuse each other throughout the ten passes

the scene will require to photograph.

A static painting of a whirlpool serves as the basic background, with rotating distortion glass causing small ripples to give the illusion of movement, the two separate levels of swirling water overlay that (one for the funnel-shaped vortex and one for the eddying surface), then the various phantasms of the vision must appear to roil up out of its depths and cross-dissolve from one level of water to the next, then bubbles dance across this activity, animated ripples undulate through-out, and backlit highlights are added to the ripples and to the funnel of the whirlpool itself. The background and the phantasms are both distorted with the distortion glass, while the whirlpool is being diffused as well as distorted, and the various decorations being dragged along for the ride have to glisten in crystal clarity. The waves of distortion are rotating in one direction for the background and the whirlpool, in the reverse for the phantasms.

But it's not that simple. The circular distortion glass is ground with degrees of distortion increasing from its center to its edges, and the separate passes of the vision sequence will be shot through differing degrees of distortion, with the rotation of the center reserved for the whirlpool at the very background of the action, and the greatest breakup at



The Horned King unleashes the power of the Black Cauldron.



Above, the Gwythaints, evil emissaries of the Horned King, bring Hen Wen back to the castle. Right, the Horned King's invincible army is created.



the edges earmarked for the images of the vision. And those images, appearing in various murky colors, can appear *under* the bubbles, ripples, highlights and swirls that represent the watery medium they're appearing in, but must appear to be *over* the whirlpool and its highlights at the base of the scene. This means that when the whirlpool and its highlights are photographed, it will have to be with a black matte cel (or "mask," as the Disney artists refer to them) of each frame of each vision overlaid. But, since those visions are being distorted, and distorted by the heaviest breakup factor at the edge of the glass, then each mask will have to be distorted in precisely the same measure at precisely the same point in the glass. The distortion glass is calibrated so this matchup can be effected within a fraction of a millimeter.

The cameraman won't shoot all this unless Patty is there to hold his hand.

The Black Cauldron occupies a unique place in Disney

history. Lloyd Alexander's bleak, Gothic 5-volume mythological fantasy *The Chronicles of Prydain* was published in the mid-60s at the height of the furor over Tolkien's *Lord of the Rings*, which it strongly resembles. Disney artists tried to get Walt interested in *The Hobbit* as early as the 30s, but he was cool to the idea. *Prydain* was acquired by the studio in 1971, while the artists were at work on the feature *Robin Hood*. When Mel Shaw, a 44-year veteran of the animation business, inherited the project in the mid-70s, it became his lot to whittle the five separate storylines (only one of which, the second, is called *The Black Cauldron*) into one, and streamline the cast of main characters from over 30 to about a half dozen. ("We tried to use only the characters whose names we could pronounce," jokes Joe Hale, the film's producer – though they've still managed to retain some pterodactyl-like creatures called Gwythaints, a Princess named Eilonwy, and a peripatetic old gent referred to as Fflewdur Fflam, proper pronunciation of which requires at least two years of graduate study in linguistics.) The Horned King, killed off in the first five volumes, became the arch-villain that would sustain the whole film. ("We thought he would make a good animation character," admits Hale, "mainly because he had horns sticking out of his head.")

Veteran Disney animators, who remembered *The Black Cauldron* only as a whispered rumor years before they entered the studio, now found themselves trying to turn this fantasy into reality. Outsiders like designer Mike Ploog and actor John Hurt were so intrigued by preliminary artwork on the project that they found their initial reluctance to get involved melted away out of sheer enthusiasm. A younger staff began to fill the halls at Disney – ex-Lucas and ex-Bakshi virtuosos, and young artists originally recruited for *Tron*, with its elaborate matting, backlighting, and re-photographing problems – members of a generation for whom animation was more than just a job you found after art school, it was a mission in life that found you when you were five and never let you go. A piece of collage art decorating one animator's office door shows a photo of Nick Nolte firing at a photo of a baby and blasting a cartoon corner of his head away, with the ballooned inscription, "I hate cute!"

"You can't have a little cartoon character battling the Horned King," Hale points out, while calling *Cauldron* Disney's most ambitious animated project since *Pinocchio*. This makes it the first Disney animated project to *try* being ambitious in a post-Walt world, a film scene dominated by Lucas and Spielberg, and the end result bears their stamp – particularly in the ominous roiling red cloud-tank sky over the Horned King's castle, in the Horned King's resemblance to Darth Vader, and in the ghoulish, apocalyptic *Raiders of the Lost Ark* finale. "We're trying to use everything that's available on the market now in the way of new things," claims Ted Berman, one of the picture's three directors. "We're using effects that have been developed by other people, just as Lucas and Spielberg are taking things from our Duck shorts and Goofy shorts and Chip 'n Dale shorts and putting them into live-action films."

"There's a touch Spielberg uses in his movies where

he shoots into light and gets it radiating,” remarks effects animator Don Paul. “We really loved that type of scene and had a chance to do it in one of these shots. But when you’re drawing it, you get flat shapes. I had to figure out a way to get a tonal light effect that wasn’t flat, that would give dimension and perspective.”

Simple diffusion of animated light rays would solve nothing. Actual backlit animation photography would create a steady glow, rather than the necessary radiating rays. The desired result was finally achieved by taking animation drawings of the Horned King in movement, creating Kodalith-like cels with a negative image of those line drawings, bottom-lighting them, then trucking in on each through a slitscan lens, creating a silhouette with beams of light that moved when the figure moved. The eventual image combined the slitscan silhouette (bottom-lit through a blue gel) with animated smoke drifting by on a separate pass to add dimension to the light rays (bolstered by a mask cel on the bottom-lit pass, making some of the clouds more opaque than others) and an animated fire smoldering behind the character to tone down the effect of the silhouette. A literal hell of an entrance.

Once the Cauldron itself moves into high gear, it gives off an atmospheric ectoplasm composed from a variety of separate effects: animated mist, backlit and diffused; a photographic record of dry ice vapor rolling out of a three-dimensional model of the Cauldron and the steps at its base, registered to match and matte the artwork Cauldron; footage of incense smoke doing the same thing; and laser light beams deflected through a variety of distortion glasses and filmed on Tri-X at 64 fps. To keep the bottom-lit ectoplasm looking dimensional, and not simply like another burned-in level of photography, it is combined with an airbrushed mask of the objects it is drifting around, breaking up the light just enough to give the impression that it is

passing behind as well as in front of the corpses in the Horned King’s living room.

For perspective downshots of the Cauldron at the height of its frenzy, the effects animators got together with the fellows from WED Enterprises, the separate company set up off the lot to create effects for the amusement parks, and rotated their laser light in an atmosphere of fog machine mist. This created a nearly solid-looking tunnel of light, which could be photographed through a lens positioned at its center, then, once each frame was transferred to a separate Kodalith, could be touched up on the drawing board before being combined with the other elements of the scene to create an atmosphere of cyclonic fury.

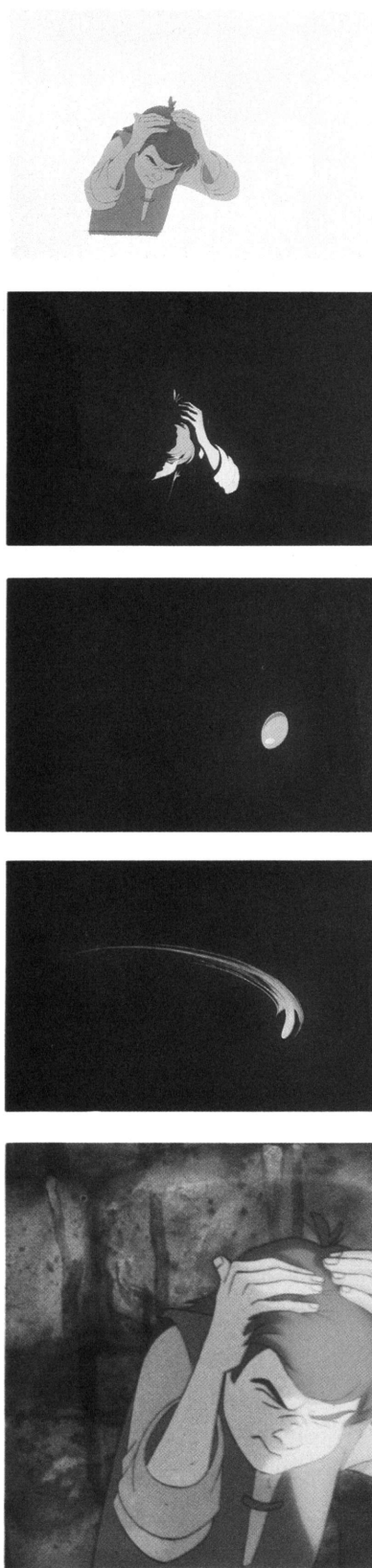
Lighting alcohol in the base of a Pyrex cylinder was good for a similar effect when the air currents were right: a tornado of flame, ready for the slow-motion-to-Kodalith process. Subjected to the same treatment were mini-Hindenburgs created by igniting balloons filled with hydrogen.

Computers, too, came to the aid of this medieval tale, both as an animation and as a photographic tool. Even at Disney, no way has been found to get character animation out of a computer. Like robots, computers can’t act, but they’re great at moving large, cumbersome objects – such as the ancient, Norse-looking ship that enters the fray at one point in the action, and the Cauldron itself, a gnarly, elaborately festooned entity that needs to pivot, turn, float towards camera and off to the horizon in perfect perspective. In both cases, though, what the computer animates is a series of lines and vectors; artists still have to be called in – in this case “cleanup men” rather than animators – to turn the nodes into knobs and the flat planes into knotted wood.

Few objects are more cumbersome than Disney’s two-story multi-plane camera, which dates from the 30s, and computers have come to the rescue here by increasing the range of exposure

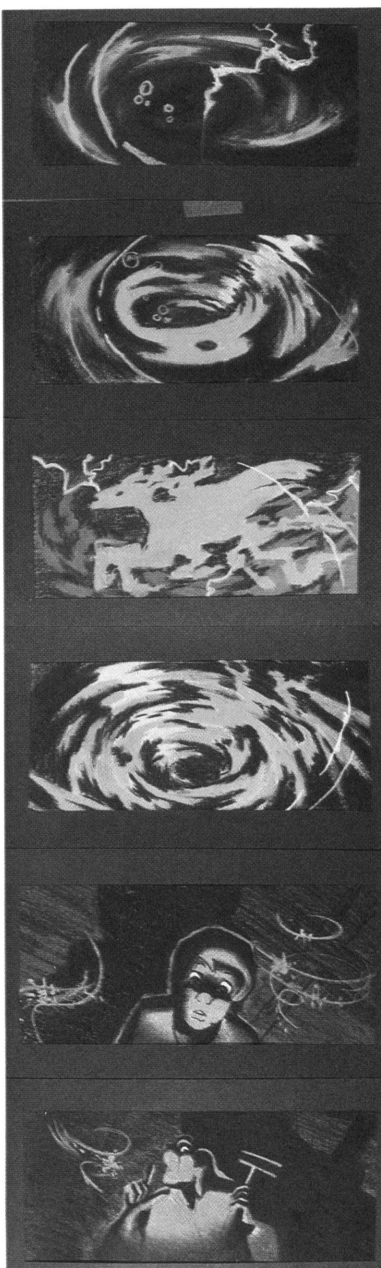
times possible, being able to dictate and program the exposures necessary to balance the light on an elaborate cross-dissolve, and

Four of the steps required to produce the scene at bottom. Top, the character cel. Next, a highlight cell with lighter values than the character model. Third, the hauble on a cell without diffusion. Fourth, the drybrush streak.





Above, Dallben and Taran prepare to witness a vision brought forth by their oracular pig, Hen Wen. Right, several of Patty Peraza's pastel sketches for the vision sequence.



keeping the focus and f-stop controls at eye level with the artwork, eliminating the need to climb the old ten-foot ladder for every lens adjustment.

Computers did the basic animation in the step-by-step process of registering the "Bauble" on film – Eilonwy's floating, blindingly brilliant orb whose magical powers kept getting her in and out of trouble. A Kodalith mask and a backlit pass were okay for far shots, but the Disney artists were never going to settle for that kind of definition in the closer angles, so, once the animator had decided on a position for the Bauble within the shot, the computer shaded it with a rectangular highlight on its top and a crescent shade on the underbelly. When this drawing got to Ink and Paint, it was used as the basis, first, for a cel with a yellow orb, a white highlight, and an orange shadow, then for a mask cel whose negative would be sliced out of amberlith, a drafting material. Once the amber circle has been peeled from the coated cel, what was left was an amber sheet with a clear porthole, precisely registered. The amberlith was then used to print up a regular mask cel with an unshaded black orb in the same registry, and this mask was photographed with the characters at a normal exposure. The Bauble's cel was photographed on a second pass

against black at a 200% exposure through a D-10 diffusion filter, which served to smear its light all over the frame like Vaseline, but still give the little orb enough dimension to make it likable, in the Disney tradition, and (once again) keep it from being simply a trick of the light. As for the moving shadows a bouncing Bauble that bright would naturally cast, those were animated in the usual way, then transferred to cels that allowed them to cast their gloom semi-transparently over the backgrounds.

Normally, these would be painted black by hand from the animation drawings, then photographed on a 40 or 60% exposure to keep them from blotting out the background entirely. The Xerox process for making cels, in use at the Disney studio since the early 60s, is no more reliable when it comes to handling solid shapes than the Xerox machine at your local copy center. But there is a new method afoot for reproducing the animators' artwork at the home of Mickey Mouse, and Mickey's ears, like the shadows thrown by the Bauble, are perfect illustrations of why it became essential.

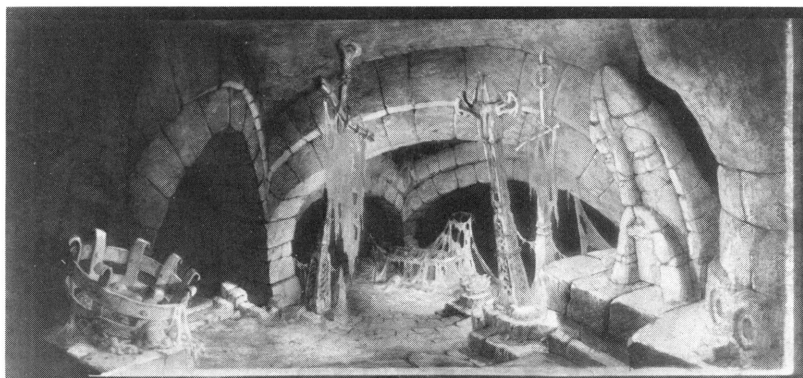
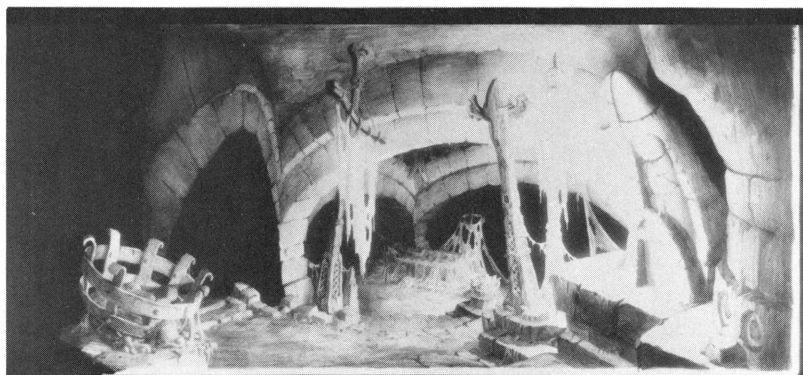
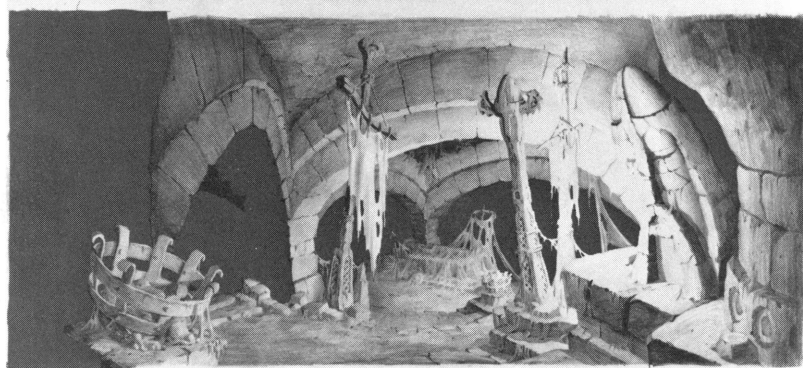
Animator dissatisfaction with inked cels is another item that dates from the 30s. Dick Huemer, who'd been animating for 20 years when he worked on *Snow White*, said later, "I resented the fact that some inker (who was a very skillful person, and I couldn't do inking if I tried) would take my drawings and go over the lines, so that when it was done it was another's work and not my original drawing. I thought, 'Why not shoot each drawing, that you have cleaned up, in some photographic process, and then it's *your* drawing on the cel?' I had no idea whether this could be done, and probably it couldn't at the time, but if a genius like Ub Iwerks had worked on it, perhaps it could have been worked out. But I went to Walt with it and his answer was no. He said, 'If you photographed the actual drawing of each animator, it would all be different, because everybody has a different

pencil technique.' So the thing was dropped right there. Of course, Xerox is a different process, which rearranges the molecules or something, and it's not actual photography. In effect it takes your *exact* line and so it transfers the same vitality to the screen. I think it's tremendous."

In fact, Xerox is an electromagnetic process that depends on charging a field that will accept the Xerox powder in a way that reproduces the line, and Ub Iwerks is the genius who adapted it to animation. It allows certain mechanical advantages, such as enlargement or reduction of the size of the image, not possible in the straight transcription of inking.

But in two decades the drawbacks of this system have become apparent too. Besides creating dropoff in solid shapes, like shadows and Mickey's ears, it sometimes eliminates dropoff in a line the animator had intended to trail off; its line also casts its own imperceptible shadow, making it look fuzzy and indistinct, so its rendition of the artist's work is less than perfect. The Xerox powder liberally dusts the finished cel and requires extensive cleanup. Once that's done, the final line is still so unstable that it may crack, chip, flake or just crumble away before it can be painted and photographed. Also, the registration of the cels with the drawings is a tenuous affair; should one of these cels lose enough of its image to be deemed unusable somewhere between the Xerox machine and the camera (a not uncommon occurrence), the problems of creating a new cel that would line up with the others in the sequence, range from the difficult to the insurmountable.

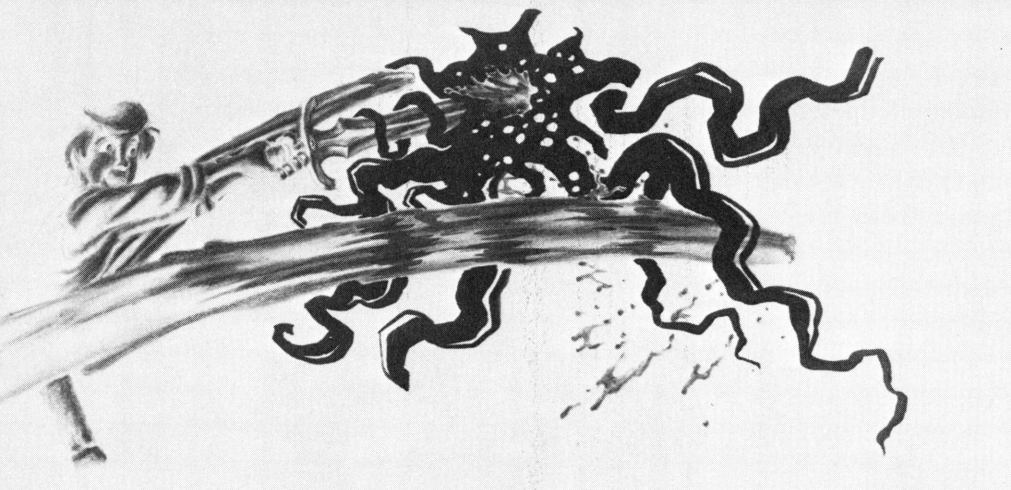
When Dave Spencer, head of the studio's Still Photo Department, heard some of these painful stories, and animator's complaints that their line was still not reaching the screen in its purest form, he began to experiment with lithographic film. Leafing through graphics catalogs, he found a material routinely used for making color proofs and specifically designed to reproduce the



Top, original pencil drawing on paper. Center, shot of original art on fine grain litho using 300 line screen with diffusion added. Bottom, the composite with painted background.

yellow, cyan, magenta and black records of an image under high-spectrum (ultra-violet, mercury or halogen) light, and all it took was a personal contact with one of several companies already engaged in turning out this material to effect the modifications necessary to adapt it to animation – among other things, increasing the range of colors it would reproduce, thickening the base of at least some of the cels from 3 to 4 mil. to allow them to hold the weight of the paint, and punching the sheets with animation peg-holes for registration. The outcome of sustained negotiations over a period of time was widely trumpeted

as Disney's new Animation Photo Transfer (or APT) process, which really *is* a photographic process and produces a much more faithful, as well as stable and well-defined, rendition of the animator's line than any other method of cel transfer yet devised. Not only does it retain the same blowup and reduction capabilities the Xerox process possesses, it handles Mouse ears like a breeze, it allows for variations in the width of the line just by adjusting a few controls, and has a range of sizes extending to what Spencer calls the "Super 10-Field" cel, which is 20"x43", nearly double the Xerox maximum of 12 1/2"x20". The



Original charcoal rendering by Jeff Howard.

Super 16-Field is used only rarely in *The Black Cauldron*, for crowded shots so full of squirrels, birds or Fairfolk (more mythology), they couldn't have been painted with accuracy enough for the 70mm screen without all that cel space. "It's never been done before," Spencer claims proudly. "We may never do it again."

Because APT is a negative-to-positive technique, any cel that becomes damaged on its way to the animation camera can easily be replaced in perfect registration just by pulling its negative out of storage and printing it over. And, because it is a photographic process, there is no limit to the number of images that can be recorded on a single cel (another area in which dropout makes Xerox disappointing).

The APT process is actually the high-contrast version of a less trumpeted but equally valuable technique whose development preceded it, in an attempt to solve the problems posed by an animated volcano in the short film *Meet the World* when it was made for Tokyo's Disneyland. The volcano proved imposing and the deadline limiting. Completion time for the sequence came and went before the problems of photographically rendering the animators' handiwork to a cel were licked, but that left the whole process ready and waiting for a big project like *The Black Cauldron* to come along.

What Bernie Gagliano managed to come up with was a continuous tone lithograph that could reproduce the shading and feeling of the artist's original

drawing even in the case of a solid mass like the figures of Patty Peraza's vision. As an artist, Patty decided to animate the figures of that scene in charcoal on vellum paper to reach the texture she felt was right for the visionary aspect of the watery medium. The conventional solution for transferring this kind of thing to cel has been the airbrush, but if inkers can be accused of losing the feeling of a sharply-defined cartoon line, airbrush artists are hopeless for producing anything but vague approximations of solid forms in motion, and the airbrush mass tends to fluctuate in density from cel to cel.

By monkeying around with different kinds of both positive and negative stock and development time applied to each, Gagliano was able to come up with both the colored toplit continuous tone cel that maintained the texture of Patty's original, and the requisite black high-contrast solid backlit mask, holding the shape of the charcoal drawings on both, while dropping out the competing texture of the vellum by polarizing his light.

Bernie's lithographs (or "lithos") were able to replace airbrush work on effects like the contours of the ground in some wonderful (and rare) tracking shots of Taran's pig fleeing the Gwythaints (transferred directly to cel in diffused green from the animators' crisp black drawings). Semi-transparent shadows are now possible on a single camera pass. If desired, the shadow can be given progressive diffusion as it extends from its light source, with not just

the diffusion but the progression absolutely consistent from cel to cel (hence from frame to frame) by diffusing the image between the lens of the Levy camera and the surface of the cel.

Working in a basement of the Special Photographic Effects building that reeks of photographic and lithographic chemicals, Gagliano has rebuilt the studio's Levy camera, built by Iwerks in 1939, to function with today's materials to meet today's needs. Once he began developing the technique, though, needs seemed to spring up out of the woodwork to meet his capabilities. "He surprises us time and time again," remarks Barry Cook, animator of the Bauble and other *Black Cauldron* effects. "We go down there with some kind of problem like the Bauble, we don't even know if it will work. He works with it, I work with the artwork, he shoots a test at different exposures, we see it on the screen, and there it is! Everybody just goes, 'Man, how'd you do that?'"

"Usually you have a technical person and an artist, and you can never get them to come together," echoes Don Paul. "Bernie's a real good bridge between the two."

"I can do reductions, or I can do blowups; sometimes a negative, sometimes a reversal; I can take it off a drawing or a painted cel," Bernie explains. "I can change the negative with diffusion, or use it sharp line. We've also come up with a technique for controlling the diffusion so that it holds registration: we can have the soft-edge shadow hit a sharp registration line and stop, but stay diffused to that point. There are a number of things we've done in the film that they've never had before, that have this combination of photographic and animated effects with a consistent quality throughout. We've taken backlit litho and given it two other dimensions. They've always been hi-con, sometimes with half-tone quality, but we've been able to create a whole range of gray scale they've never had. On top of that we have all

these toplit elements: masks, shadows, Baubles and charcoal renderings."

Don Paul's mini-Hindenburgs and the Horned King's slitscan entrance are prime examples of the stamp these lithos have left on *The Black Cauldron*. They play a large part in creating the interplay of glisten and gloom that suffuses the entire picture and makes it the magical thing that it is. Many of the effects have always been possible in the abstract, but difficult to the point of unfeasibility in the real world; others could never have been achieved with this sense of authority any other way. The general impression they impart is not an overly technological one, or it would clash with the mood of the story; instead, the effect is of artwork extending outward into more dimensions than it usually reaches.

For the impact of Taran's magic sword with the oafish ax of one of the Horned King's vassals, effects animator Jeff Howard was able to get a diffused highlight on the vassal's face on the same backlight mask with the sharply defined sparks coming out of the sword, being able to see a clear cel in the spark area without contrast so high it lost the detail of his artwork.

For reflections in pools of water, Bernie stretched the characters by making new reverse-direction cels with a tilted platen on the Levy camera, then restored the images to a normal size, while maintaining the elongated perspective, by tilting them back on a 4x5 view camera, mechanized for consistent exposures, and making prints from each of the photographed negatives, with registration marks printed right along with the image.

To give dimension to the reflections of the Peraza vision being dappled onto the characters watching it, the backlit highlight lithos are photographed over a shadow mask cel, which holds the reflections back from those sections of the body less inclined toward the light source, and doubles as a shadow over the character on the first pass.

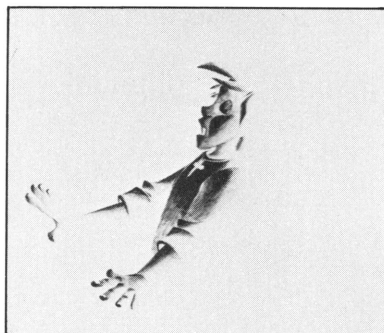
And when the "Cauldron-Borne" – the Horned King's Zombie Army – rises up to take over the world, then loses a certain amount of steam due to interference in the Cauldron, they give rise to a succession of transparent after-images (inspired by the optically printed after-images in Norman McLaren's short film *Pas de Deux*) – as many as 60 per Zombie at once, all made from the original animation drawings, and each one fading slightly from its first appearance to its eventual disappearance, all printed onto a single litho, and not tinted green or diffused till they get to camera. Sixty after-images on a veritable sea of bodies, each fading slightly from one frame to the next, can be done on camera, but probably wouldn't be.

Disney animators have the advantage of working at the one studio in the business with a sense of continuity – the only one in town with an archive. Hence a distortion glass carefully ground for *Pinocchio* makes possible *The Black Cauldron's* vision scene. Some of the Cauldron's fog is transferred to lithos from live-action film shot by Eustace Lycett thirty years ago for purely experimental reasons. The cloud tank footage that lights up the sky for the Horned King's castle is all left over from *Something Wicked This Way Comes*. And Ub Iwerks' Levy camera couldn't do everything Gagliano trained it to do without retired *Tron* equipment.

But the archive can yield up some unscheduled surprises. "I saw all these charcoal drawings from *Fantasia* and *Pinocchio* in the morgue," says Don Paul. "And I was saying, 'God, they must have had a huge airbrush staff! And how did they follow through with everything – the airbrush people must have been animators, because nothing really flickers.' There was that break: I couldn't figure out how they got those drawings to film. Then I started finding some of the cels, which were lithos. And I couldn't believe it. I've seen lithos of Monstro the Whale, and all the demons in *Fantasia* were photographic. We've

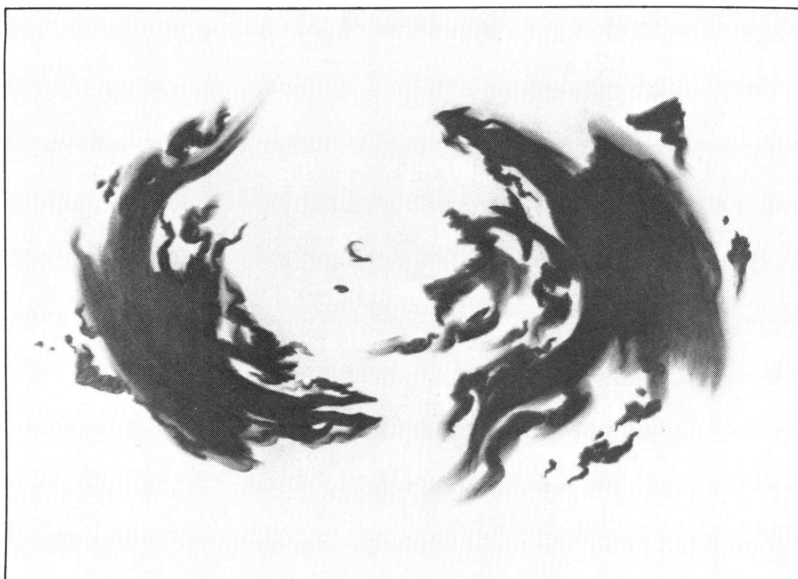
re-done what they did in the 40s; we've taken it further, I think, because we've cleared the density much better now, and we're holding a little more tone than they did. But they actually had a photographic reproduction of charcoal onto a film stock."

Further research, outside the studio, turned up an explanation: the photographic technique had been a jealously guarded secret among a small corps of effects experts, who applied their magic to *Fantasia* and *Pinocchio*, but then got caught in a crossfire of wage and labor disputes, erupting in the major strike that crippled the studio in 1941. When they found themselves laid off, they guarded their secret even more jealously and stole away into the night with all records and notes of their process, never to be heard from again. The litho and APT techniques now in use at the studio had to be developed from scratch, as if the previous work had never been done.



Above, the touch-up step between the original art and the negative. Below, the negative.





"We feel that we've gone back to the standard that existed when Disney made his reputation, and we've done it under all kinds of handicaps," Bernie points out: "Contemporary management under siege, a transition there we've had to deal with, no possibility of getting the equipment we really need, solving the problem anyway with a combination of the knowledge of the artist, the photographer, and things we can dig out of the archive, and the expertise that has come to us through the manufacturers, who give us products superior to products they did in the past."

Even at Disney, it seems, probing into recent history has something of an archaeological atmosphere to it. Discovered in Ub Iwerks' notebooks was the design for a machine to spray a fine lacquer onto frosted cels (textured to receive certain art elements, like pastels, that won't register on normal, smooth-surfaced celluloids) to clear them up again for camera once the art has been applied. There is little awareness of frosted cels and their value at the studio today, and even less idea what to do with a machine designed to restore them to clarity. The *Pinocchio* distortion glass was actually something of a puzzle; nobody at Disney now really knows what it was used for in *Pinocchio* or why it was that it had survived the years

in one piece, when natural selection had done in all its fellows. When it was, unfortunately, dropped and broken in the final month of *Cauldron* production, it was like breaking the Rosetta Stone.

Don Paul, fascinated by the rippling water distortion effect achieved in the Wishing Well scenes in *Snow White*, managed to find out that it was achieved with a hard lacquer layered and animated on its own cels, then photographed above the character's image (her "reflection") on the multi-plane camera. All attempts to re-create the formula for the lacquer failed to jell. The original chemist had to be located in Arizona and the recipe spilled out over the phone, but things still didn't firm up properly until he was actually hired back by the studio on a temporary basis to help mix and layer the recalcitrant material. When it came time to apply it to the cels, the work was spread out among artists more evenly than the lacquer was spread on the cels, resulting in a jumpy effect in the first take of the scene. But it was already too late: the schedule didn't allow for this time-consuming process to be attempted a second time, and a quicker method had to be devised to meet the deadline.

"I feel that the more times we settle for that kind of

thing," grumbles Ted Kirscey, the effects animator with the longest tenure at the studio, "the more times we take short cuts, the more times we try to use the speedier method – which turns out a lot of times *not* to be the speedier method – the more times we do that, down the road, ten, fifteen, twenty years from now, we're not going to have a Disney animated film anymore." Kirscey did some of the more conventional effects animation in *The Black Cauldron*, including the magnificent crumbling of the castle in the final reel, and he's less than impressed by the encroachment of photographic techniques onto his turf: "I see two schools of thought here," he says, "one is the type of person who's very interested in live-action, *Star Wars*-type filmmaking, and the other is thinking of the art form that pervades here, the Disney animated film. Those two philosophies will not meet. If they do, it will destroy one or the other" – his words echoing the Curse of the Black Cauldron as it was once articulated in a previous version of the film.

The two philosophies are already finding their first union in *The Black Cauldron*, and there may be more to come. Walt Disney Productions has reached an agreement with Lucasfilm Ltd. to develop a *Star Wars* attraction for Disneyland to be ready for the summer of 1986. But the connection to Lucas was really done through Steven Spielberg, who is close to many of the decision-makers at the studio. Further liaison among the Superpowers is at the talking stage. Disney staffers like Kirscey see it as a danger signal; others see it as the studio's only hope. It is easily a union of mystiques powerful enough either to rule the world or destroy it.

In theaters across the country this summer, the *Cauldron-Borne* will be rising . . .

Joe Adamson is a well-known Southern California author. His most recent book is titled, "Byron Haskin."



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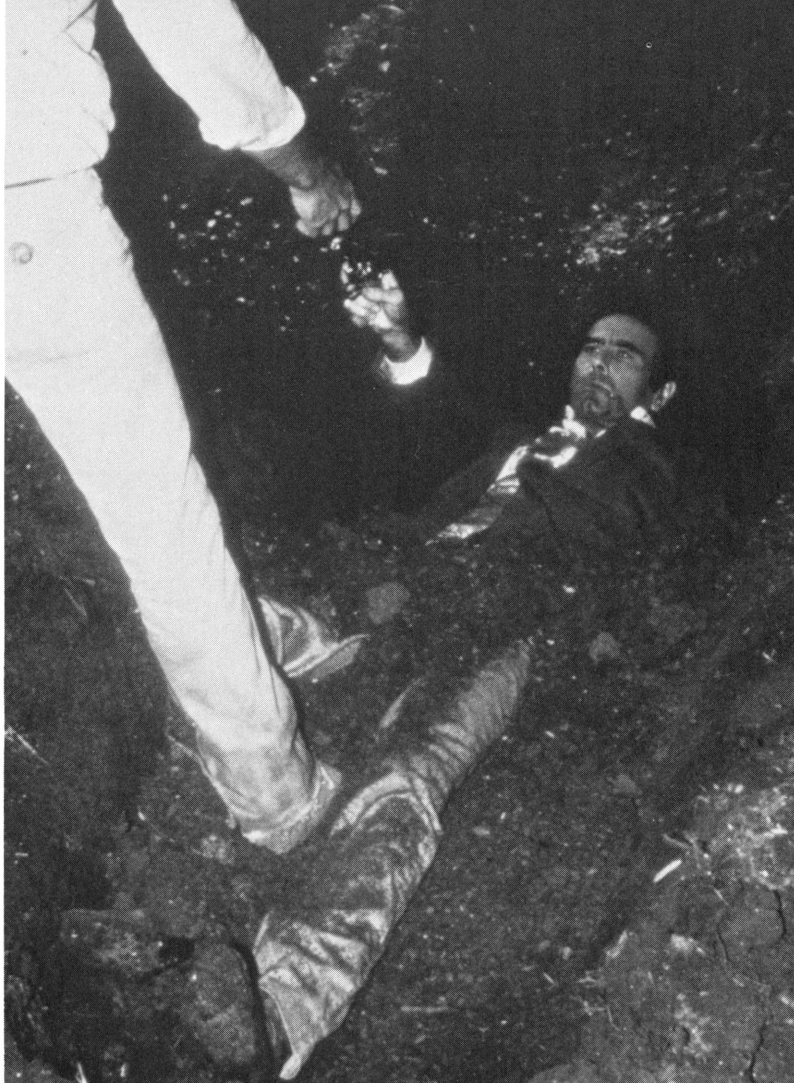


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Shadows and Shivers for

Blood Simple

by Barry Sonnenfeld

There is almost no problem in the making of a feature film that cannot be solved by throwing money at it. More lights, more time, more crew, a bigger crane, a reshoot, can all be bought with a big time budget.

One of the challenges of shooting *Blood Simple*, a Texas murder mystery shot in Austin, Texas, was to make a \$1.5 million movie look like ten times that.

The money was raised over a period of almost a year in the form of a limited partnership. The director, Joel Coen, had never directed before; his younger brother, Ethan, had never produced a film (and worked as a statistical typist at Macy's to pay their rent while they raised the money). I had never looked through a 35mm camera.

The money was raised by

shooting a three minute trailer of the movie, as if it was finished and about to appear in your neighborhood theater. The trailer was our selling tool. It showed prospective investors that we could make something that looked like a real film, and it was something to invest in that had a recognizable form, unlike a treatment or script, for which none of the investors had any expertise. We were so low budget that we waited until "President's Weekend," to shoot the trailer, when we could rent the 35mm camera over Washington and Lincoln's birthdays, using the camera and lights from Thursday until Tuesday and paying a one day rental charge (thank you, FERCO). I taught my cousin Kenny, a neuro-pharmacologist, how to pull focus.

Eight months after we shot the trailer, we had our money and were on our way to Austin to make our movie. *Blood Simple* is a tightly plotted murder mystery in the *film noir* tradition. The plot involves the owner of a bar who discovers that his wife is having an affair with one of his bartenders. He hires a sleazy 'good ol' boy' detective to kill his wife and bartender. The detective has a better idea. He takes a photograph of the lovers in bed, and doctors the snapshot to look like they have been shot to death. The detective presents this photo as proof of a job well done, gets paid by the husband, and then shoots him. In effect, the detective has committed the safer murder. He leaves the wife's gun, which he has stolen from her pocketbook as evidence for the police, when, he assumes, the body is discovered.

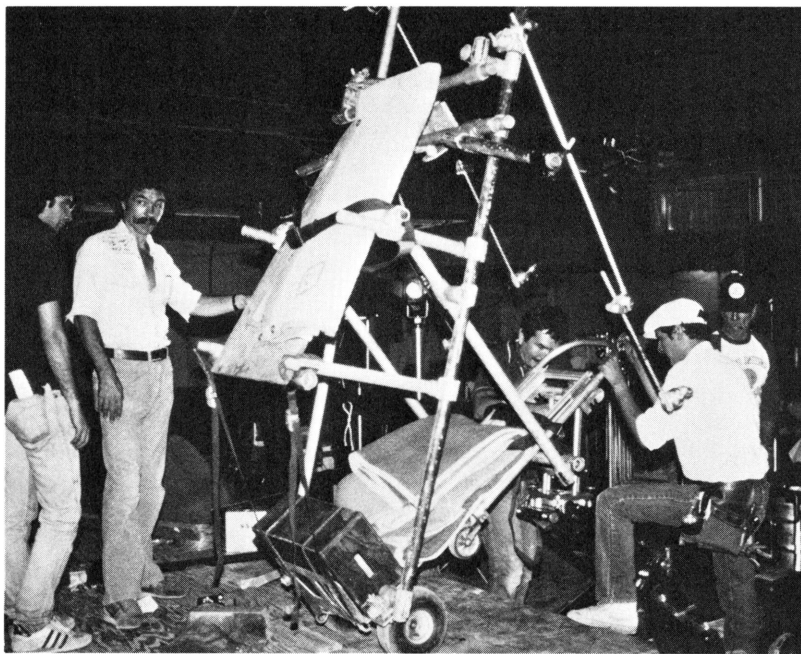
Unfortunately for everybody concerned, the lover comes to the bar that night, finds the body and the gun, and assumes that the wife committed the murder. He cleans up the mess and goes to bury the body in a field. However, he discovers that the body isn't quite dead and is forced to finish the job himself. He then goes back to the wife and says, "Don't worry, I took care of everything." She doesn't know what

he's talking about, and their misunderstanding leads to mistrust, and several more murders.

Every scene in *Blood Simple* was storyboarded. The only effective way to bring a low budget film in on budget is to preplan everything. Pre-production is cheap compared to standing around the set with a crew, scratching your head, saying things like, "What would it look like if we put the camera over here?" The other reason, besides economics, that the film was storyboarded was the intricate nature of the plot. Certain visual elements repeat themselves in ironic visual ways, and these were all planned. Visual devices such as match cuts, sound overlaps, and camera-locked-down dissolves are all cheap and easy to do if they are thought about ahead of time, and tend to give a film a production value far beyond the cost of achieving these effects. There is a stretch of 20 minutes in the film with no dialogue which works totally on a visual/filmic level.

We were very lucky to have Tom Prophet as our key grip. Tom's wife felt that Los Angeles was no longer geologically sound, and convinced Tom to get out of L.A. while they could still drive out. They relocated in Austin, luckily for us. Tom taught us a lot of Hollywood high technology with his pipe dolly and other rigging devices, and we taught him some low technology as well. Joel and I decided early on that we wanted to move the camera a lot, and when the camera wasn't moving, we sometimes would dolly or raise or lower lights during the shot, so there was always some kind of apparent movement.

One of the cheap but efficient ways we moved the camera on *Blood Simple* was by dragging me around the floor hand holding an Arri BL3 while lying down on a sound blanket. This was quite effective since not only could we virtually be on the floor with the camera, the grips could actually pick up the blanket during our moving shots and turn the sound blanket into a crane. Another device we used to move the camera I

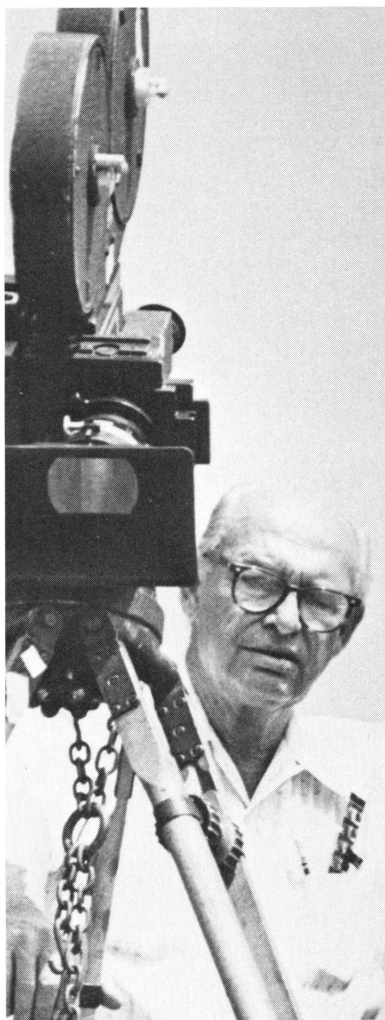


Top, "speed rail" whereby actress and camera are locked in. Below, Sonnenfeld strapped to the device.



believe was first used by Caleb Deschanel on *More American Graffiti* and was shown to us by Sam Raimy, who directed *Evil Dead*. This device is the 'shakicam,' and cannot be beat at any price. The 'shakicam' is a two inch by 12 foot piece of lumber with a handle at either end of its twelve foot length. The camera is then centered on the board. An Arri-2C with a Kinoptik 9.8mm lens was used. With a grip at either end, the camera was raced along the ground at full speed, approaching the fighting wife and husband. Due to the extreme wide angle lens, in a matter of a couple

of seconds, the camera races from an extreme wide shot into a super close-up of the wife as she bends back and breaks her husband's finger. In effect, all the shaking of two grips, racing at top speed along rough terrain, are smoothed out by the time the shakes reach the middle of the twelve foot shakicam, and the camera seems to float. It was a very enjoyable shot to watch being made, since it looks like such a stupid idea. I would run behind the camera, not looking through the viewfinder, but still getting a sense of level and angle. I also got to yell "duck!" at the actors, since as the shakicam



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raced towards them, it was also rising from several inches off the ground to eye level, and the device has the stopping ability of a Boeing 747.

Another unusual and effective device we used was to lock the actress and camera to each other. For this, we used Tom's speed rail. The actress was strapped down into what looked like a torture device. The camera and I were then strapped in four feet in front of her, and the whole device was rigged with a block and tackle to a beam in our studio. We then had two backdrops built. The backdrop directly behind her, at the head of the shot, was of the back room of the bar. On the floor, we built a bed. As the contraption pivots 90 degrees on itself, the actress, in effect, leaves one scene and falls through space past a series of side lit inkies, and eventually lands on her bed, and a different location in the film. Not only is this an effective transition visually, but psychologically as well, since, at this point in the film, she's quite confused. Since the actress and camera are stationary to each other, there is almost a feeling of the two scenes floating towards her.

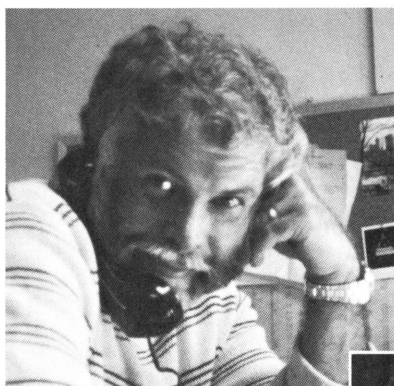
Originally, my thought for the lighting on *Blood Simple* was that the high contrast, *film noir* look should come from a high ratio of main light to fill light, but that the quality of the light should be softer, bounce light. However, once we started shooting, I decided a more controllable way to go was with direct fresnels. Almost every shot in the movie was lit with either an Ianiro Miser, which is similar to an inkie, but tends to have a more even field, or a 4K HMI. It was a strange combination of extremes, but it worked for us. In fact, the extremes of lighting is what I like about the technical end of the film the most. In the end, there were no soft lights, bay lights, silks, and only a rare bounce light for scenes in the bathroom.

I am proud to say that the lighting in *Blood Simple* is almost



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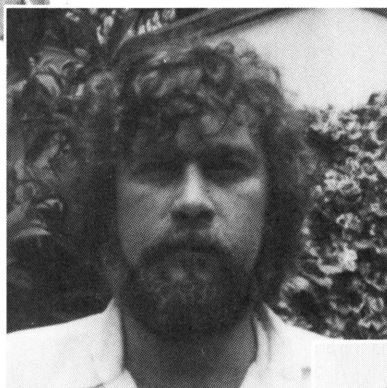
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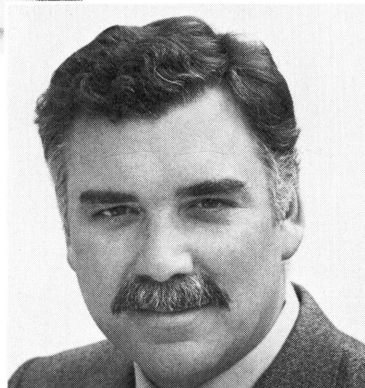
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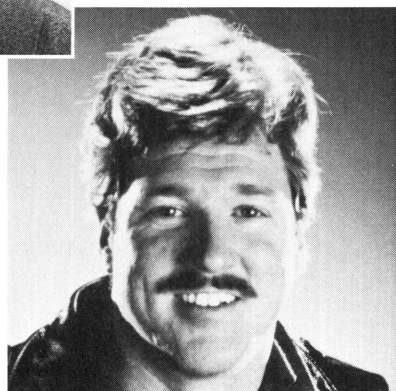
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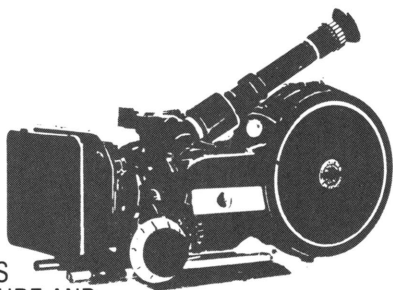
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totally unmotivated. There is a lot of discussion in the industry about motivated light (seeing the light sources in the frame), as if it is more truthful, honest, or more beautiful. For *Blood Simple* the lighting was used as a psychological tool. For the film to be effective, the film had to be dark and contrasty. In fact, at the end of the film, the lighting itself becomes a character. The evil detective, in a bright bathroom, starts shooting bullets through a wall into a dark, adjoining apartment where our heroine is hiding. As each bullet slams through the common wall, light streaks through the darkened apartment at all kinds of crazy angles. By the time the detective runs out of bullets, the darkened room is sliced up into thirty tubes of light bleeding out of the six bullet holes, slicing at all kinds of angles, racing out in four or five different directions from each bullet hole. The only motivation for these crazy streams of light are twenty open face rks on the other side of the wall. However the audience is affected by the scene; it is funny and terrorizing, and it works.

Joel, Ethan and I felt strongly that we wanted our blacks to be rich, with no milky quality. The entire film was shot on 5293 rated at 200, which overexposed the stock between one half and a full stop. Our printing lights were always in the very high 40's. This produced a very thick negative, and although the raw stock is overexposed, the film is printed quite dark and contrasty, and the blacks are black. The development and answer printing was done at Du Art Labs in New York. My camera reports to the lab were always the same: "Print it too dark!" Du Art did a great job.

Jane Musky was the production designer. She created sets that were terrific and laughably inexpensive. That the film came in on time and on budget was due in no small way to Deborah Reinisch, the first assistant director and a film director in her own right, and Mark Silverman, the PM/associate producer. ■



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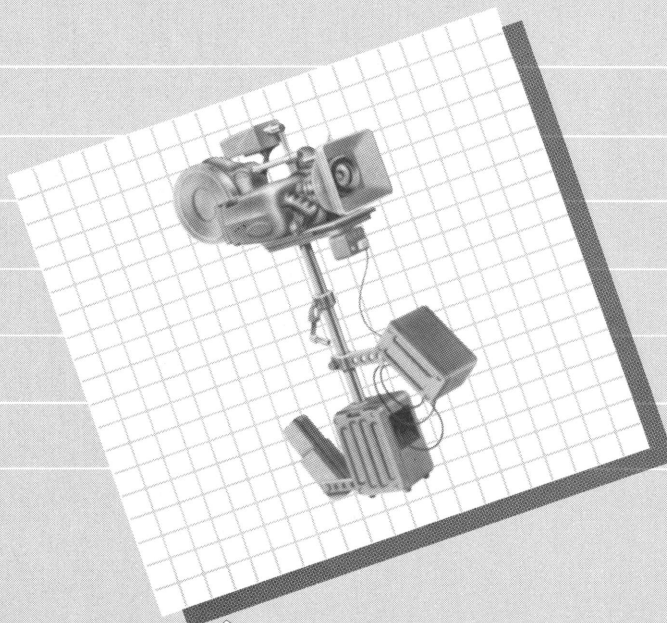
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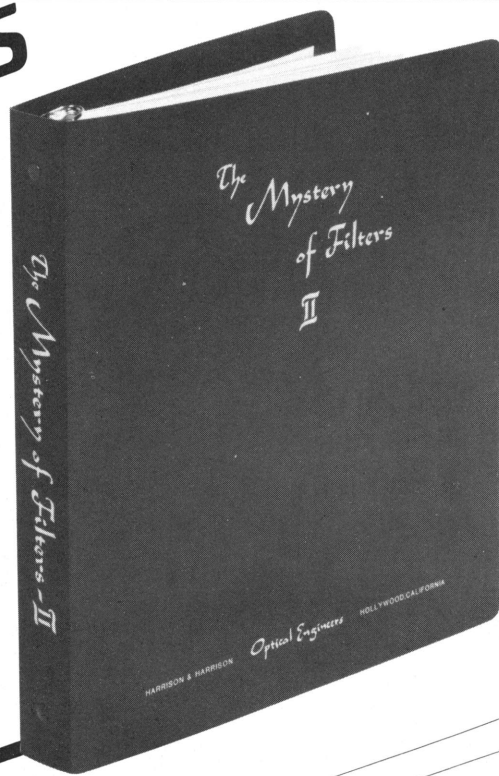
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The Ghosts of Greenstone: Super 8 to 35



by Tim Collare

It was nearly 1:30 am, the cast and crew were weary and somewhat punchy and all were anxious to finish the shot and move on to the next set-up – especially production manager Ric Landreth. Ric was handling the camera on this occasion, a Canon Scoopic with 100' roll capability. He was shooting, subbing for Mike Haley, director of photography and primary camera operator on our low budget feature, *The Ghosts of Greenstone*.

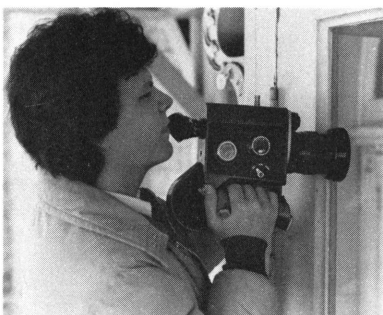
It was a difficult shot and not without risk! Mike and I agreed that it would look great, but neither of us was eager to put ourselves in position to do it. Ric came through, again. He climbed into the dark, narrow pantry-like closet, which sank about three feet below floor level. He allowed us to close and occa-

sionally open the door and bravely endured our countless rehearsals of Roger, played by Stuart Scott, opening the door, looking inside and upon finding a jar of rotting something recites the line, "Anybody hungry?"

On the third take I shout "Out, that's a keeper." Ric thanked me for only three takes. He emerged with no bites from venomous insects. Spiders must be sympathetic to filmmakers, for they certainly had plenty of great opportunities with us. This was a typical Saturday night spent walking, rolling (in a wheelchair dolly) climbing and sliding around inside Korner's Folly, a fabulous old mansion built in 1880, the primary location for our first feature project, *The Ghosts of Greenstone*. We shot until dawn on this and many

other occasions.

I "discovered" Korner's Folly on a guided tour of the house, located in the small southern town of Kornersville, North Carolina, about 20 miles from my home. Perhaps the narrative supplied by one of the characters in the film's opening sequence, best describes the location within the context of the story: "The Greenstone is an exotic mansion with a history covering more than 100 years. It is a true relic of the past, reminiscent of medieval and Victorian architecture. On a much larger scale it would be considered a castle. The exterior is rivaled only by its unusual interior design. Highly ornate, its ceilings and walls are decorated with murals by Italian and German artists at the turn of the century. Most of the



Top, McIlwee makes a wheel chair dolly shot while Collare pulls the dolly. Center, Mike Haley, DP. Below, Collare on front exterior of Korner's Folly, location for *Ghosts of Greenstone*.



original furnishings remain intact, though somewhat aged. It is possible to become lost inside, amidst the narrow passages and winding stairways which connect the multi-levels. The uppermost section is especially unique for it houses a private theater, complete with a stage, an orchestra wing and an area for audience seating."

I was struck with the notion that something should be done with this location! Naturally, my first impulse was a haunted house story, but I suppressed the idea on the basis that "it's been done." During the course of the next several months, the old house kept popping back into my imagination. Finally I drafted a 20-page treatment of a fantasy, haunted house legend. I showed the material to Mike Haley, a cinematographer and commercial producer and Ric Landreth, an instructor of TV and video production. The result was the formation of a production company, Omnimage Creations, to turn the idea into a feature. The owners of Korner's Folly agreed to allow filming in the house in exchange for participation in the film's profits, and an assurance that the house and its furnishings would be safe from harm.

We made a number of scouting visits, shooting slides and in general getting a feel for the place. As I was writing the script at the same time, I was able to tailor the action to the unique features of the house, such as a huge, ornate ballroom on the second floor and the theater at the top.

Raising production funds

must surely be the most frustrating task to the first-time independent producer. Our case was no exception. Some local investors and regional film distributors were interested but not to the point of investing. Our most encouraging prospect came from a national theater chain that expressed a strong interest in the finished product. We each had a certain amount of pride and confidence in what we believed we could do, so we decided to go ahead with the project and do our best on limited personal funds. Once we were committed to the project, the real planning began.

First, there were other key personnel and a cast to recruit. Having worked together on other projects, we knew people with necessary talents to bring to the production. In order to make it happen, everyone would have to be willing to work on a deferred profits basis. This proved to be no problem as the people we wanted were interested in long term goals more than the salary in question. This worked to perfection in our situation as the project seemed to create a sense of unity and direction for all of us.

Emmett Furrow, a multi-talented artist, animator and filmmaker designed the special effects and coordinated the apparitions who reside in the mansion. He also doubled as an actor, playing the role of Antonio Ferramo, the fictional magician who built the Greenstone.

Bob McIlwee, an accomplished young filmmaker, assisted Emmitt with effects and served as 2nd unit

director. There were times when we were shooting in more than one location within the house simultaneously. Mike Locke handled the locations sound recording chores and is currently creating an original score for the film. Mike Austin, who works at a local TV station, was our all-purpose key grip and worked closely with Mike Haley creating the lighting effects. There were also several students from our local school's Career Center TV class who served as grips and production assistants.

The cast was headed by six local high school students, (they're all in college now!), Robbie Fox, Steven Young, Stuart Scott, Karen Manual, Alice Keith and Karen Lyons. They had each worked in school or community theatre. Carrie Sutton, Beth Bostic, James Austin and David Ittermann were in supporting roles.

Everyone working voluntarily meant that we had to be flexible in scheduling. This, combined with the fact that we were only able to shoot on weekends led to the situation of a prolonged shooting schedule. As a matter of fact, we had just completed the photography as we approached the shooting of a final, special effects scene featuring Emmitt Furrow as the magician. It has been nearly three years since we first began working in the house and really putting the project together. If you'd asked me when we began how long it takes to make a movie, at least our movie, I'd have confidently answered, "One year, tops, from shooting to knocking on distributors doors!"

At least we weren't over budget! The greatest consolation is that we hung in there and kept pressing forward. From the very beginning the suggestion not to finish was never a consideration. There were interruptions, to be sure, ranging from weeks to months. We encountered more obstacles than I have digits on both hands for which we would surely have been justified in throwing our hands into the air and shouting, "We quit . . . enough is enough!" We realized that every production encounters problems and perhaps this was our "baptism of fire," a test of resolve and love for what we were doing.

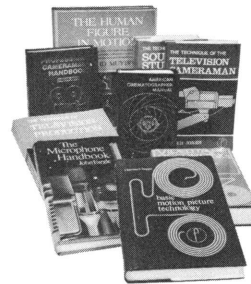
The Ghosts of Greenstone is a fantasy/adventure aimed at a general audience. It concerns the quest of

six young adventurers trying to earn \$1,000 by spending a night in a reputed haunted mansion, the Greenstone. The house is owned by Walt Harris, played by Jim Austin, who is having problems trying to "unload the property." He can't sell the place because of the legend, so he'd be willing to do anything to improve his prospects. He and a real estate agent, David Ittermann, scheme to proclaim the house safe with the reward gimmick.

We would have loved the opportunity to shoot in 35mm with the full compliment of support equipment. With this production to our credit, we hope to realize this "dream" on our next production. Since 35mm was out, we began looking for alternatives. Shooting in 16mm is the most natural second choice, with a reputation established for features but 16mm would still strain our resources and cut into our shooting ratio. The idea of shooting in Super-8 occurred to me after reading an article about a South American feature which was blown-up from S-8 by Michael Hinton at Interformat Lab in San Francisco. We considered the prospects and worked with Hinton on a test blow-up. We screened our one minute print at a local theater. Our reactions ranged from surprise to mild shock. The technique worked and we determined it could be applied to our situation.

At the invitation of Michael Hinton, I traveled to New York for the purpose of seeing this technique applied to a feature. The feature had been shot on Kodachrome stock, our test on improved Ektachrome stock and in both cases the image quality was preserved. Of course there was increased grain, but not to the point of distraction. The audience accepted the story they watched on the screen without knowledge of the original film format. Shooting in S-8 is a calculated risk we decided to take. It meant a solution to a particular problem. For us, it was a no loss gamble for in the end, we still have completed a feature, an accomplishment in itself. If the technique doesn't work to satisfaction for theatrical distribution, and we believe it will, then we have TV as an alternative. Since we have been transferring everything to tape for rough cut editing, we have discovered that the two mediums are compatible. That's not the end of our format story, however.

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After we began shooting, Mike Haley purchased about 6000' of 16mm VNF 7240 and 7250 stock at a bargain. It was out of date, but had been stored in good condition. We actually switched formats for some of the shooting to 16mm. We might have continued in 16mm if not for the fact that Mike discovered a magenta cast the old film was causing. Rather than risk ruining a lot of valuable production time, we returned to the S-8 format and continued shooting on the Beaulieu camera which produced steady, crisp results. Our final product is actually a blend of about 25% 16mm and 75% Super-8 in a 35mm blow-up or videotape for television or perhaps both.

Shooting in the old mansion offered a terrific opportunity for challenges to be met. There were narrow passages, sometimes no more than 2½ feet across, low ceilings and terrible acoustics. Mike approached the lighting with skill and imagination. We had decided to light to create the sensation of seeing the way the characters see the house, primarily by flashlights which they all carried. We added a Coleman lantern to boost the overall justification for light source. We couldn't let the contrast go too far, but we still wanted to maintain the dark, mysterious mood. The results were extremely pleasing. Our lighting outfit included four 1-Ks with stands, lights from flashlights and the lantern, some photofloods and a set of homemade "pinspots." These were small reflector-floods with a 2' sheet metal extension attached, about 3½" in diameter, with 250w bulbs as a source. Our pinspots were used to create the flashlight illusion. They were hand held, sometimes to establish a point of view or to illuminate a character, particularly in close-up. They were rudimentary but they worked, and once again a problem was solved. The production was a long running lesson in resourcefulness.

The most difficult scene to plan, stage and shoot was the "apparitions' ball." The action takes place in the ballroom on the second floor. Tracie, played by Karen Manuel, finds herself alone in the mansion following the disappearance, one by one, of her companions. Attempting to leave, she encounters a bizarre mixture of apparitions within the house, with the activity centered in the ballroom. To shoot this sequence required extensive planning, especially on the part of Emmitt Furrow.

He single-handedly coordinated the appearance and make-up of each character. In addition he appeared as two different characters; Ferramo the magician, "host" of the "party" and a strange butler we called "Cat Man." Emmitt searched the city of Greensboro, N.C. digging up costumes, material for facial appliances and of course, willing subjects; 20 or so people who would allow themselves to be transformed for the weekend. We scheduled one entire weekend for the whole scene. Mike, Ric and I worked out the lighting details - we had to somehow adequately illuminate the entire ballroom for good exposure and at the same time preserve a candlelight appearance. On the weekend of the shoot, Mike was called in to work at a local TV station; neither his nor our schedule could be rearranged. We had to shoot without him, but fortunately Mike's methods had influenced us enough so that we could maintain the established style. Everything fell into place, to the credit of everyone, but it was one heck of a push.

We knew from the beginning that all dialog would have to be looped, though we did record a scratch track on 1/4", for reference purposes. In the editing process, I transferred the audio onto 3/4" videocassette, as with the film. Surprisingly, I've been able to match the wild track to lip sync in takes of up to 30 seconds. With the film to tape transfer edited to just over 70 minutes, we have a dubbing session scheduled. The completed production should run about 80 minutes. We've struggled with the obstacles from lack of electrical outlets to the larger more complicated task of managing time, but we've met them all and somehow managed to survive.

I must say that throughout, the crew and cast performed as professionally as any group to be assembled. We have been fortunate to have found the perfect combination of personnel for this situation.

I've read that directing a film is likened to going into battle. I believe it. The demands of the situation force the best in you to surface. There's no substitute for actually doing. Certainly you make mistakes, but you learn from them. We're ready to jump into another project - as soon as this one is finished. ■

Tim Collare is an educational television and video producer-director.

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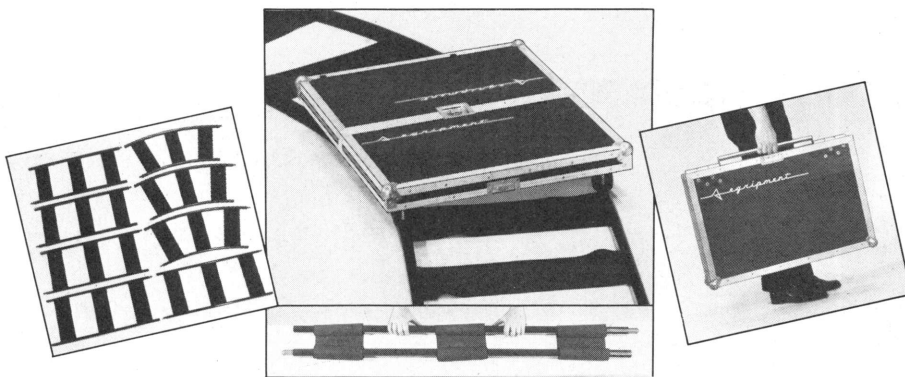
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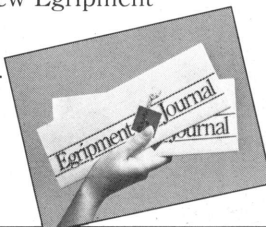
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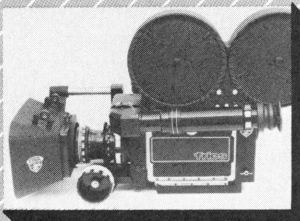
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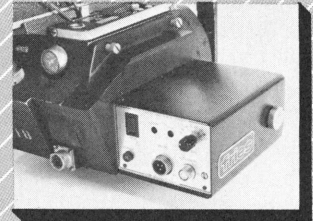
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24 Frantic Hours on *A View to a Kill*

by Russell Ito

Set on the southern anchorage of the Golden Gate Bridge, San Francisco's Vista Point is a perennial tourist spot, but Ned Kopp is not a tourist, and he was not enjoying the view. Kopp, whose company handled the San Francisco logistics for *A View to a Kill*, was alarmed; the equipment hadn't arrived at the location. "Well, we're on a tight schedule," a considerably calmer Kopp explained later, "a little bit because of weather, and a little bit because of the number of people involved. We had all kinds of maps, schedules, plans – all color coded, and the people we probably paid the least attention to were the U.S. guys – particularly the locals, San Franciscans, because *everybody* knows where the Golden Gate Bridge is – I can't imagine anyone who wouldn't.

"Now the Golden Gate has a south end and a north end, which probably most people know. By the dumbest accident, the equipment ended up on the wrong end. So here's the whole crew – all the U.K. guys, everybody who should not know where to be – all in exactly the right place, and more than a small group was at the other parking lot on the north side."

Fortunately, the Golden Gate can be crossed in a matter of minutes, so after a brief scramble, the trucks were directed to the proper site. In that time, Kopp wasn't the only one having anxiety attacks: "During that short period of time, the fog was coming in, and the U.K. people were getting very, very concerned that *they* were in the wrong place." Learning fast, he made the incident and object lesson: "That happened to

us on the first day, and after that, *everybody* got maps – even if they said they lived on the Golden Gate Bridge."

For Kopp and Nancy Giebink, who together form the core of Ned Kopp & Co., that was the beginning of a punishing, 21-day, \$5 million dollar shooting schedule that saw them working around the clock for the entire shoot. The schedule – including five days of shooting 24 hours a day, with as many as four units filming at the same time – provided ample proof of Murphy's Law.

In addition to signing checks, Kopp and company's responsibilities lie in the area generally referred to as "below the line" (i.e., variable with time). These assignments include below the line producing and packaging (i.e., the gathering of production personnel, including technicians, location scouts and managers, unit coordinators, etc.), plus production management – all invisible to the viewer, but indispensable to the producer and director.



Grip Dick Dova rigs the platform on the cable extending from the north tower of the Golden Gate Bridge.

Photo by Toby Heindel

Although *A View to a Kill* was their first Bond picture, Kopp and Giebink brought formidable credits with them, having recently worked on *Shoot the Moon*, *The Right Stuff*, and just having wrapped *Birdy*, on which Kopp was the associate producer. Speculating on his involvement, he felt that the two Alan Parker films (*Shoot the Moon* and *Birdy*) may have tipped the scales in his favor, since both Parker and Eon Productions (the Bond production company) are based at Pinewood Studios outside London.

In the fall of 1983, a full year before the San Francisco shooting, Kopp and Giebink held their first meetings with the Bond company. Heavily involved in preparing *Birdy* – then only two months from the start of production – their schedules didn't permit a great deal of contact with the UK visitors, leaving much of the location scouting to associates Rory Enke, and Steph Benseman. After a week of scouting, and additional meetings, the Bond team left the Bay Area without having

made a firm decision, in part because, at that time, a finished script didn't even exist. While some general story ideas had been agreed upon, the final screenplay would be tailored to the specific locations selected; as a result, the location scouting took on far greater importance than in most other productions. Many months later, it would have a tremendous effect on Kopp's work.

Birdy kept them busy well into August, when they moved over to *A View to a Kill*. Meanwhile, location scouting for the Bond movie continued at various sites around the world, the script remaining changeable. Six months later, a major accident had a huge impact on the San Franciscans' efforts.

On June 27 a disastrous fire swept through the Bond sound stage at Pinewood. Fed by exploding gas cylinders that had been used to fuel some campfires on a large forest set for Ridley Scott's *Legend*, the blaze levelled the structure.

Even though the Bond company had not actually planned to use the stage, the repercussions for *A View to a Kill* were enormous. Because the labor force at Pinewood is a permanent fixture that isn't normally expanded with freelancers, the workers who otherwise would have been available to the Bond movie were withheld for the completion of *Legend*. Along with the shortage of labor, the designers now found themselves also confronted with a shortage of stage space for the planning and building of sets, putting a further crimp into the schedule of a picture that still did not have a locked down script.

Just over a month later, with *Birdy* wrapped, Kopp flew to London for a week of meetings on the Bond picture. Based on the scripts he had been sent, and conversations with the principals involved, he had a general idea of the schedule that would be required.

"Originally, they were going to shoot in the U.S. and London at the same time," he said.

"They would shoot their first unit in London and they would have a second unit shooting plates, establishing shots, and things here. That second unit would then shoot dialog here with Roger Moore, Tanya Roberts and a few other people, then the principals would go back and the second unit would complete the chase.

"So they'd send one foreign crew here, we would then hire another crew – or two, as necessary – and that group would then do everything.

"At that time, we were planning on normal days. Normal being maybe 12-hour shoot days with an hour to get there, and an hour to get away – roughly 14 hours. That would be a week or so of first unit, and a couple of weeks of second unit – chase stuff. It was about 15 days, and then probably a week or so of plates, backgrounds, pass-bys, and establishing shots – nothing with people, just all pretty pictures of the Bay Area.

"That would all start around the end of September and go for three to five weeks. As it turned out, we went three weeks, because we went around the clock."

Arriving in London in the first week of August, Kopp visited the production in progress. "They were already shooting first unit on the stage at Pinewood, so they'd been building sets for that for about a month or so. They were also shooting in Paris and they were either finishing up or still shooting in Iceland.

"As I understand it, they'd started shooting in Iceland before they even had a finished script, but they had to do it, because that was the time of year when the glacier was going to do this, and the snow was going to do that . . . a lot of things were going to happen that they had to get going on."

Although some script changes were still being made by this time, the story was – more or less – settled, but unlike most projects, Kopp found more information in the storyboards, since they contained the action sequences

that would not be changed. Reading the script and looking at the drawings, he realized that his work would play a major part in shaping the picture itself.

"When I first read the script, it said 'a cable car chase,'" he remembered. "Well, the only time you could clear a cable car run – that is, shooting on the tracks – would be once the cable cars closed down.

"You wouldn't have a prayer of going to Muni (S.F. public transit) and saying, 'Hi, we want to shoot on a Saturday afternoon, at the height of the tourist season, and we'll just shut down your cable cars, and we're going to control them for two or three days.'

"But you do have a chance if you go to them and say 'We would like to do a cable car chase. It feels like it's prestigious for San Francisco, and it's going to show the cable cars in their best light. It's going to show San Francisco in a very positive way, and we shoot it after you close down at night, from 12:30–1 a.m. to 4:30–5 a.m., in that timespan of four or five hours, and instead of shooting it all in a day or two, we shoot it over three or four nights, do you see any problems with that?' Well, then the resistance is far less than even suggesting shooting it during the day."

Because of the logistics involved, Kopp made it clear that the stunt work – the bulk of the San Francisco shooting – would have to be filmed at night. This then had a "trickle down" effect that limited where the shooting could take place.

"At one time – I wasn't involved in it – Remy Julienne, the French stunt coordinator; Arthur Wooster, the second unit director; and Peter Lamont, the designer, came to San Francisco – on their own – and scouted, and they found places that they really loved for doing the chase. They found Broadway Hill, Divisadero, Filbert – all in Pacific Heights, where the *Bullitt* chase happened." In addition to being one of the hilliest areas in San Francisco, Pacific

Heights is one of the wealthiest and most established, with wide avenues and stately mansions.

"When I went to Paris, and Remy showed me the photos of where they talked about a chase, I said, 'Well, you won't have a prayer. We couldn't possibly use that area. I think we could get you some pass-bys. I think you could get the fire engine coming down some of the hills and some police cars following it, but we're not going to be able to block that off and tie up the area crashing cars.'

"Then they asked when and what we *could* do, and I said, 'We can control this at night, and we can do this at night, and we can do that at night. . .,' which immediately ruled out Pacific Heights, because you can't control it during the day, plus it's residential, and you can't be there after ten at night. If you got a waiver of any kind, then you could maybe be there to 10:30 or 11 o'clock – but then you're dead. The police department stays pretty tight to that curfew – you can't be in those neighborhoods before seven in the morning. So as we saw what they said they wanted to do, we then tried to direct them toward the times of day and areas we felt we could clear."

As scripted, the fire engine-led car chase began near city hall, further supporting the argument for night shooting. "You can never close Market Street (the main thoroughfare through downtown San Francisco)," Kopp explained. "City policy is you can never block streets. But if you go there at 1, 2, 3, 4, 5 o'clock in the morning, the buses are no longer running like they were – there's one every half hour or 45 minutes; the taxi-cabs are not busy. There's much less traffic."

"Downtown San Francisco is not a residential area, so if you stay away from the hotels then you can pretty well smash and crash and bang cars all night long and never interfere with the police or the fire department or whatever," Kopp says.

By the middle of September, matters had become so im-



Camera is rigged to photograph fire truck chase scene through streets of San Francisco.

pacted that 24-hour shooting was the only solution. Still feeling the consequences of the fire, the production was forced into shuttling between the stages in London and various international locations just to keep shooting. "They went from Paris to Chantilly," Kopp explained. "They then went back to London for two weeks, and then they came to the U.S. While they were in London, they had to shoot those particular sets – and finish with them, so that they could take them down. Then, during the San Francisco shooting, they'd build more sets."

What made the marathon approach acceptable was that it had little impact on the budget. "These were always separate units," Kopp said. "Now whether the separate units were in a line, or whether they all happened to be at the same time, 24 hours, didn't really affect the numbers an awful lot. The day crews shooting the plates were going to cost so much, and the fact that we had a day crew shooting dialog at the same time we had a day crew shooting plates, at the same time we had a night crew shooting chase . . . all of those were budgeted by themselves, so it really didn't change the cost."

What it did change, though, was the entire preparation

for the movie. "What we did that first week is in effect, three different movies. It would be like you were prepping for three separate, complete, totally different operations. Three different crews, three different packages of equipment, three different cameras – each unit had two or three cameras in their unit, so we had nine to twelve cameras with VistaVision and separate odd pieces of equipment."

But while the budget may not have been affected, the production office, which had been set up in whirlwind fashion in early August, was. (In fact, the Bond office went up in less than two days. Kopp returned from London on a Saturday, joined Giebink and their staff in closing *Birdy's* San Jose office on Sunday, and Monday morning they were already answering the Bond phone calls in San Francisco.) Shooting around the clock meant the production office had to follow suit, as Giebink explained: "To keep the office open 24-hours a day, there were three production coordinators, and one of them would come in at 6 a.m. and work say, 6–6; the next one would come in around noon – it varied, 10 to noon, and then work 'til 10 p.m. or midnight; and then the night shift would come in around 6 p.m. and go 'til 6 a.m. so that provided office cov-



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erage with the most people there during the late day, which is when most of the activity was going on .”

Having begun compiling the shooting schedule from the multi-colored screenplay and the storyboards, an even more complete picture began to emerge after they received an early schedule from Waye. This too presented new challenges, for not only was it in a format neither Kopp or Giebink had ever worked with before, it also covered the whole movie. “We spent quite a bit of time going through their schedule just trying to pull out of it what pieces were going to be shot over here, because it was for the entire picture,” Giebink related. “So that was a little confused, but eventually we took all the information and started stripping it out, and the way we boarded it was to take the three basic units and keep them on separate schedules.” Although the Bond movies are noted for their gadgetry, the making of the San Francisco schedule was accomplished in the same manner that has been the backbone of production scheduling for decades: carefully transferring the information – by hand – to thin, colored strips of cardboard and then arranging them on large production boards.

But even with the London schedule and the script in hand, Giebink found the storyboards far more useful. “Although we all read the script diligently,” she said, “in the end, all the shooting was based on the ’boards. The first unit stuff was based on the script, because very little of that was ’boarded out. But the second unit, the aerial unit, and the Golden Gate Bridge unit were all based on the storyboards, and so instead of numbering to the script, like we’d normally do, we numbered everything to the ’boards.

“Most heads of departments had sets of storyboards, and in a lot of ways it’s really very easy, because you make copies of them and do one frame per page, and you cross them off as you do them, instead of marking the script and

keeping track of it that way. It's almost like shooting a commercial.

"Now for the second unit - and the third, aerial and plates - the directors of both of those had very specific shot lists as well. So first the 'boards, and that's how we did all the break-down and the scheduling, and then the shot lists, which were even more detailed than the storyboards."

No matter how careful the preparation, though, reality has a way of ruining even the very best planning, and given the first unit's dramatically shortened availability, complications increased. Having a rough idea of the shooting schedule since spring, Kopp now began the laborious task of finalizing dates and locations. "So it's now the first week or two in September," he related, "and you go to City Hall, and you start trying to make your arrangements. They are as accommodating as possible, but as careful as possible. And they say, 'Okay, you can use City Hall.' Then they go and look at their calendar, and you find out that the ninth, which is Tuesday, they have a reception in the rotunda for six or eight hundred people, and you've got it scheduled for Monday and Tuesday."

"You cannot use City Hall on Tuesday, the ninth."

"But Mr. Moore is only going to be in California for eight days..."

"Not only that, the crew is only going to be here for a certain amount of time, and you've got that scheduled pretty absolute on that Monday and Tuesday, and they say you can't shoot there on Tuesday. So now you have to move things around. We ended up shooting there on Monday and Wednesday."

"Now it also got involved because another location said that we could only shoot there on Sunday - that was the mine over in Marin. Another location said we could only shoot there on Saturday - that was the interior of City Hall. So that took care of those days. Then the only day we could

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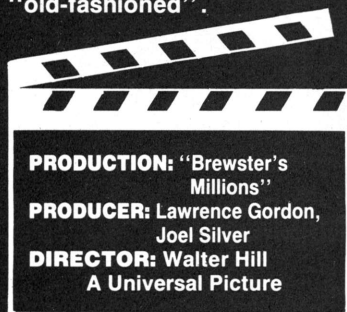
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shoot at Japantown was on a Friday, so we really didn't have a lot of choices as to how we could flop things around on the schedule."

Even while Kopp stood waiting for the equipment at the south end of the Golden Gate bridge things were still changing. "The jetty in Richmond was supposed to be later," Giebink remembered, "but a ship was due to come in, so we had to flop the whole schedule. I think we flopped it the night before we were going to shoot it. That was supposed to be on Wednesday, but we couldn't have it Wednesday, so we brought it up to Monday, and then moved everything else. It just sort of dominoed back from there."

Shooting with a firm schedule — without room for contingencies — is the cinematic equivalent of working without a net, and it was the cause for more than a small amount of stress. "We could only be at certain places on certain days," Kopp said. "Had we missed on some of those, had we had a camera malfunction, or an actor's problem, or something, some of those locations we could not go back to until maybe a week later — which Roger Moore and the first unit couldn't do. For instance, if we hadn't finished at the mine on that Sunday, we couldn't have come back on Monday, Tuesday, or Wednesday; we'd have had to wait another whole week.

"Now that would mean we'd have had to keep all those people here with nothing for them to do for a week, so we had to hire enough crew to make sure we finished. This caused tremendous pressure on John Glen, the director."

A reflection of how frantic the pace became after shooting began was reflected in the U.K. crew's timetable. Arriving from London on a Saturday, their second unit was shooting on Sunday.

After a day's rest, the first unit also began shooting, and Kopp and Giebink now found themselves not only dividing their time between the production of-

fice and the locations, but among the crews as well. In general, Kopp stayed with the first unit, while Giebink remained with the third unit (aerials), which was shooting at the same time.

With the start of night stuntwork on the third day, the schedule became a full, twenty-four hour circus. After monitoring all the daylight filming, Kopp and Giebink would then make their way out to the second unit, shooting the chase that night. Giebink described their work schedule: "There would sometimes be a period of time from 2 to 4 in the morning when neither Ned nor I were in the office, because maybe one of us was taking a nap, and the other was on the set. Ideally, both of us would be around, because different problems come up, and one set of problems needs him and another set of problems needs me. So there was a period when we were only getting two or three hours of sleep in twenty-four."

Keeping to the frantic schedule, the first unit and cast left San Francisco on a Tuesday afternoon and began shooting on the Pinewood stages the following Monday. Meanwhile, the second unit, which was shooting all the chase footage, was still in the U.S., facing 12 more nights of San Francisco filming. Still to be shot were the remainder of the City Hall fire, Bond (now a stunt double) hanging from a fire engine ladder and swinging through traffic, the engine being chased among the cable cars, and Bond's escape by jumping the engine across a drawbridge.

"We couldn't go onto California Street with the cable cars until 1 a.m.," Giebink explained. "So on those nights, we had to shoot other things, and then do the move. We tried hard to get onto California lots earlier than 1 a.m. but in the end, the schedules couldn't be changed."

"We had a scheme," she laughed, "where we were going to hire motorized cable cars and have them run Sacramento Street for the general public, and we could have California Street, but the authorities didn't think that was

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such a good idea.

"That was probably the biggest scheduling restriction: how to get to and from California Street, because you didn't want to be on the far side of town the night you had to make that move. So we shot around China Basin (about a mile and a half away), and then moved to the cable cars. We did that four nights. It's a tough move, because you lose - you really lose - a couple of hours."

In other situations, those few hours might not have mattered, but once again, the production was racing the clock. "We could only shoot the cable cars from one in the morning to five in the morning - four hours," Kopp said. "So that meant we had to find something to shoot at the beginning of the night, for four hours, make our move, somewhere in between there eat, shoot for four hours, and then get off the street before morning traffic started.

"So we shot other places in town the first part of the night. For instance, we shot up on Potrero Hill a little bit - just some pass-bys, and some vistas of the bridge in the background and the fire truck going by, but those are residential, and you can only be in those areas until ten o'clock at night. So we'd shoot those the first part of the night, then we'd shoot the Cable Cars.

"The choice ended up being: did I want one crew to work an awful lot of overtime, or did I want a couple of crews to work pretty much straight time, and we ended up somewhere in the middle of that split. I had a crew coming in early and going home early, and a crew coming in late and going home late. We had to do that for four nights. The crew saved us; they were fantastic.

"Now, not only does that involve personnel, but we had to find additional equipment: lighting, cranes, and cherry pickers. All the same cameras worked and some of the same lights; the same generators worked, because you just unplug them, drag them to the next place and plug them in again.

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But the lights are way up there on cranes and on roofs. People let us leave lights out on balconies, on fire escapes, and on rooftops, without much concern."

While all the shooting was being done at night, Kopp and Giebink's work hours were not significantly reduced. "Even when it was just down to the second unit, shooting nights, we wound up doing the same thing in hours, because a lot of the problems will happen at night, but all their solutions happen in the daytime, during business hours," Giebink said. "It's tough to do all your business at 2 o'clock in the morning, so you've got to be up during the daytime."

"But I don't think physically you could do that schedule for more than the time we did it. Three or four weeks . . . it's pretty tough on you physically."

Kopp agreed, and said that the keys to surviving the ordeal were keeping the wrap date in sight, and having the right people. "I think it's fairly easy if you can see the end, if it's going to stop in a week," he said. "I think it'd be tougher if you think you might have to do that for three or four months, then I'm sure there would be a stress point, or give-up point, or a point where you couldn't muddle through a plan."

"When you have a group of people, you have to be able to yell at those people and have them yell back. And if they - or you - get too nervous because someone's yelling, you've got the wrong group of people. Your success or failure is with each other."

After shooting 21 days and spending \$5 million dollars, the production wrapped. While openly admitting that luck played a factor in his company's success, Kopp was justifiably proud of the job his group had done, and he summed everything up in seven magic words: "We finished on time, and on budget." ■

Russell Ito is a free lance writer based in San Mateo, California. His other skills include production stills photography.

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by Paul Mandell

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In the late sixties, much of the studio's activity moved West. "Brooklyn One", the lower level of the Avenue M complex which once housed a huge swimming pool for *The Esther Williams Show*, became the home of the soap opera *Another World*. The latter still resides there, but save for an occasional *Kraft* special, the history-rich street level floor remained dormant. *Saturday Night Live* made a brief appearance there in 1976, then returned to Manhattan for logistical reasons. Another soap, *Texas*, came to Brooklyn in 1982 but went under a year later, making *Another World* the studio's sole survivor.

Things changed in July of 1984 when *The Bill Cosby Show* moved in. To the delight of NBC entertainment chief Brandon Tartikoff and the Carsey-Werner production company, the show became one of the biggest sleepers



Shooting scene for *Cosby* show. Below, Jay Sandrich directs rehearsal. Multiple cameras and overhead lighting grid.



Photos by Paul Mandell

in broadcast history, grabbing the Niensens practically overnight.

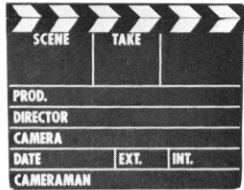
Actually, the first episode was not a completed show but more of a presentation in search of a network, taped in Hollywood. Sitcoms come and go; sponsors consider it risky business. But Tartikoff felt confident in putting NBC's chips on the Cosby chemistry. The presentation was con-

verted into the first show. Because Cosby lives back East, the decision was made to bring it there. For the first time in fifteen-odd years, the 90 x 150 foot "Brooklyn Two" stage was juiced up for weekly usage.

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helmed two-thirds of *The Mary Tyler Moore Show*, directed the series *Soap*, and has a reputation for working well with actors. That rapport is essential to any show's molecular bond; unlike a feature film, a successful series becomes "family" for a long stretch and calls for steady lubrication. Sandrich's temperament is the perfect complement to Cosby's breezy style. Ironically his father, Mark Sandrich, who directed the Astaire-Rogers musicals at RKO, hailed from Bensonhurst, Brooklyn — a stone's throw from the new home of *The Cosby Show*.

"*Mary Tyler Moore* was done on film," Sandrich points out. "*Soap* was really the first taped series I did. When I first started directing taped comedies, they were very bright, very high key. My feeling was that taped shows always *looked* like taped shows. Obviously the lighting styles of the two mediums are different; film does have a certain richness. So for *The Cosby Show*, we went out and got a film gaffer who had done some pictures. We talked about how we did not want the standard high-intensity look. We wanted more modeling and atmosphere. But I really don't get too involved with the technical end. We have very competent people doing those things. My concentration is on what shots I'm taking and what the actors are doing."

Getting the Brooklyn facility to meet the show's technical/aesthetic requirements wasn't easy. Initially the problems seemed insurmountable. *The Cosby Show* is taped weekly with multiple cameras in front of a live audience, a new situation for the studio, and the extant equipment simply was not compatible with the format. Jay Sandrich spoke candidly.

"At first, it was 'Here's this new show coming in' and naturally nobody was going to spend a fortune purchasing new equipment. We're not in Hollywood where shows like this are made all

the time. The cameras were 16 years old. We were having lots of problems with them; they were not ideal for this type of work, and they were breaking down. We needed better dimmers. The early shows were all coming out unbalanced. Our editor, Geoff Brown, who is an absolute genius, would spend hours upon hours getting shots on Camera One to match those on Camera Four.

"About the second week, I was talking to Grant Tinker. He asked how things were going. I said 'Great, but we're having trouble on the cameras.' It was agreed that we'd do some investigating."

Fortunately the relationship between NBC prez Tinker and Sandrich was well-seasoned — Tinker had been the head of MTM during the production of *The Mary Tyler Moore Show*. New RCA cameras were soon on order but could not be installed in mid-season.

Brandon Tartikoff observed the third taping. A week later, Ikegami rental cameras were brought in as a temporary measure. Their improved circuitry and sensitivity to light became a real tool for all concerned, from the camera operators to the actors who could now work in lower light levels. Where the old RCA's often required a strained level in excess of 300 foot candles, the Ikegamis function admirably at 150.

During the show's presentation stage in Hollywood, producers Carsey and Werner hired lighting consultant George Riesenberg of the Klages Group in Los Angeles to establish a general approach for the lighting director to work with. By coincidence, Riesenberg (presently the lighting designer on *Faerie Tale Theatre*) was a twenty-year veteran of NBC-Brooklyn, having left in 1970 to work for an independent concern. He devised the lighting plan for the show, then joined the Cosby company in Brooklyn.

"Lighting-wise," said Riesenberg, "we would know what was happening prior to the

script in a talk-down session with Jay. We couldn't pinpoint a specific floor plan, but we could surmise, because with a sitcom, you usually don't drag cameras off the floor into the set, and you have a pre-determined perimeter. Once in a while you'll bring a camera into a hallway and shoot through a door. The director would advise me of that plan in advance. We would then see a blocking prior to camera placement. I would have time to ask questions and light appropriately. Then we would add what was necessary to fine-tune the show's lighting, and we'd be very close to where we would be when we block positions on camera."

To facilitate *The Cosby Show*, Riesenberger ordered a battery of lights. The list included a combination of over 130 one and two-kilowatt fresnels (key lights for talent), 14 1K scoops (broad fill lights), 16 nooks (small units used for walls), 10 2K baby zip lights, a few 200w and 600w inkies, 6 ellipsoidal projection units or "lekos" (used to stipple the flatness of a wall with an out-of-focus breakup pattern), and several other varieties.

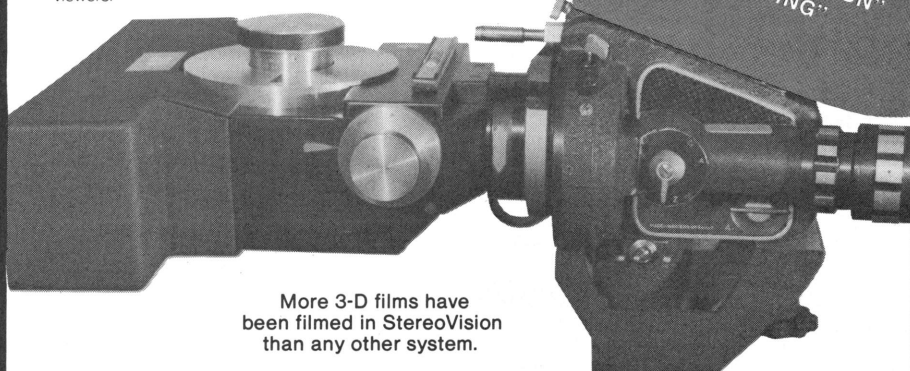
"One has to be careful that the wall texture is not 'over-done', particularly when the talent is dark and the set is bright. In order to control the walls, we put up a 'set light'. That may be a 'wall wash' or a fresnel that would light the walls and give it some texture. The wash could be any number of lights, and separate dimmers would control the intensity. If the director wants it to look bright, you could bring that dimmer and wall wash up without hurting the talent. So you can create the illusion of depth and also have complete control over the dramatic situation."

Boom shadows are the bane of TV sitcoms, complicated by the traffic problem created by four cameras and several booms working simultaneously. Here, lighting is crucial. Occasionally Jay Sandrich will retain shots containing mike shadows when the performances are superior but the

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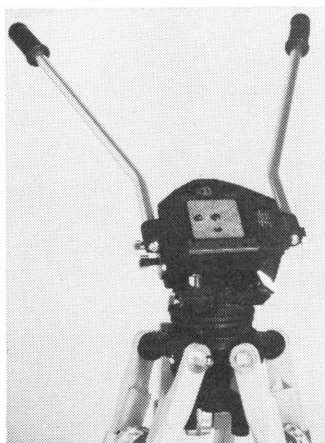
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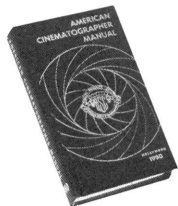
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shot's timing precludes a cutaway.

“There's a technique used when you have two booms floating around,” Riesenberger explained. “Generally speaking, ‘cross keys’ are placed up-stage of the talent, a bit on an angle. How many feet apart the lights are placed depends upon the height of the set, the grid, and the location of the actors. In other words, if they face cross-stage, as they usually do when they talk to each other, and the camera is down-stage of them, imagine a light hitting the up-stage side of their faces. The cross keys serve to cancel out the boom shadows.”

Environmental lighting phenomena figured prominently in the show's second episode. “We had a night scene in the bedroom, with no bedroom lights. With dark-skinned talent, it was rather difficult to create the illusion of night while keeping it bright enough for a sitcom look. It was strictly a balance of light. We created a moonlight effect using an ellipsoidal Venetian blind pattern, and gelled it with a #50 blue. We washed this on the wall as well as on the bed, so we'd have some sort of light hitting them. Then we brought up the overall light, just enough so the cameras could ‘see.’ Additionally some keys were brought in at low intensity, in sympathy with the particular camera angle. It worked out quite nicely.”

Riesenberger returned to Los Angeles after the third show and was replaced by Randy Nordstrom, a member of the New York-based Imero Fiorentino group of lighting consultants. Nordstrom had trained under Alan Walker, who not only lit Carsey-Warner's *Oh, Madeline* but also *Soap* with Jay Sandrich. When Walker heard that *The Cosby Show* needed someone back East, he recommended Nordstrom, who made some changes on Riesenberger's design.

“We needed to use more 5K fresnels, because some of the swing sets (those that change week to week) were getting larger. Also,

George did not use much diffusion. My approach was to soften the look of the show. I found that a bit more flattering. You do need larger units when you start diffusing. Occasionally we brought in more 4K soft lights to cover large areas. I must say that the Ikegami rental cameras were a blessing. I lit two shows with the old RCA's. To produce decent pictures with a little room on the lens, we had been lighting fairly bright. In fact, when I diffused the show, we were running fairly close to wide open, probably between $f2$ and $f2.8$. With the Ikegamis, we gained two full stops right away."

"You don't light black people differently than white people," Nordstrom points out. "What you do need is a cooperative effort between the art director and the costume designer in terms of palette, so that high-contrast situations are avoided around the facial area. The designer has to give you a chance for separation from the walls, yet it can't be so bright that your eye is directed immediately to the face. The talent plays over such a wide area, you're approach *has* to be general. It can't be specific in terms of re-lighting for a closeup. It's important that the costume designer insures that something close to an actor's face is not going to shift color-wise from one direction to another, and also isn't going to be hot in terms of skin tone. We have white and black actors side by side in the same area, so the lighting can't vacillate. You have to deal with those two skin tones shooting from the same angle."

On *The Cosby Show*, Nordstrom works closely with lighting director Steve Brill in maintaining the original plan of straying from the stereotyped sitcom look. The consultant does an overview in general terms; Brill's job is to execute that look. Creating "time of day" is always desirable; a romantic scene will be run a little darker. Because comedy lends itself to an "up" look, mood



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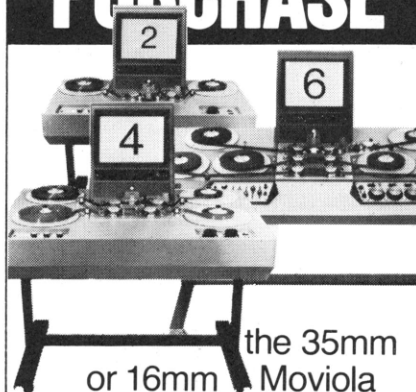
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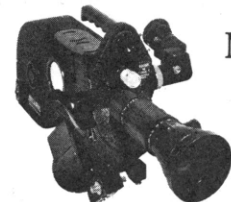
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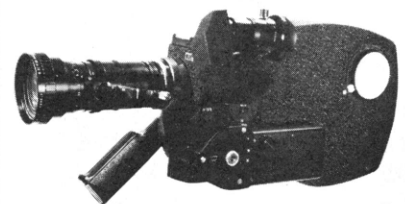
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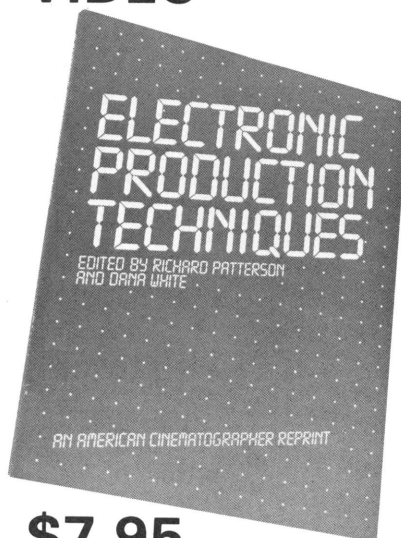
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lighting can be tricky, particularly when the director is dealing with closeups from two angles virtually 180 degrees apart.

"Technically," says Nordstrom, "I think what's different on *The Cosby Show* is that we use a bit more light from the camera angle - not in terms of fill light, but key light. All the baby juniors and 1K Fresnels hanging in front of the set are low, because that's one of the standard techniques to get under the boom. In terms of ratio, we run them bright enough to make sure they get into the eyes. The idea is that the show is still balanced in favor of the crossbacks to achieve some modeling, but you still need enough from the front lights to get into the downstage side of the face, to put sparkle into the eyes. It helps the close-up."

Recording devices employed during a *Cosby Show* taping are fairly standard nowadays and provide the director and editor with great flexibility. Four cameras feed a signal to the control room simultaneously; each is also fed into isolated 3/4 inch VCRs and one inch reel - to - reel VTR's. The 3/4" cassettes are used as a workprint; the one-inch becomes the master for the final edit.

A separate video control unit is assigned to each camera, with two men on each unit. Also, a "quad split" is recorded and displayed with a time code, embracing all four cameras on a single monitor in the control room. The quad exists as an editing convenience, enabling Jay Sandrich and editor Geoff Brown to observe all four iso's at any one time without running each individual tape.

Finally the recorded material is brought to Editel in Manhattan, where a CMX computerized system assembles the sequence of shots on the one-inch masters according to the decision list made from the VCR's.

"*The Cosby Show* requires a different style of shooting for the camera operators," Sandrich admits. "They had come from

sports shows, soaps and *Saturday Night Live*, and had a bit of adjustment in understanding our style. The lights are set low and the camera's iris is opened, making it harder to focus. They don't have that crisp image in the viewfinder. But the result is a softer, more natural look. Normally on TV shows like this when you lose your light, you're off the air and you could readjust focus and go to your next shot. But because we re-edit so much, they have to learn to maintain that shot until the very last moment without adjusting in the middle of the take. The cutting pattern may be changed in the editing. A few didn't get the hang of the system, but now we've got guys that are happy with it."

The Cosby cameramen agree. "Jay doesn't give the actors specific marks," says operator Jim Mott. "We have to make our own adjustment. They give us shot numbers but it's pretty loose. We know what looks good optically. If we have to go for a tight shot or a cross shot, we use our own judgment. Jay tells us what he basically wants and it's up to us to get it. I'm a soap cameraman; this is a breeze compared to that."

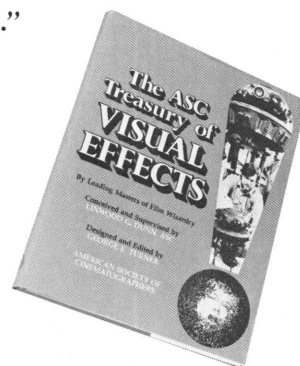
"Every taping has new shots," observes Mike Bennett. "It's changing constantly. And the iso's sometimes work to our advantage. Many times the director or editor will say 'It's a good thing you held that shot,' because it was isolated on the VCR's. It's the kind of thing where we feed them the shot but we never know if it's going to be used."

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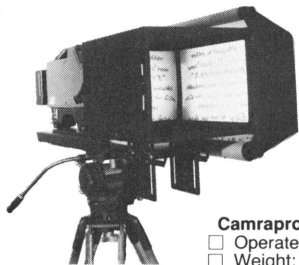
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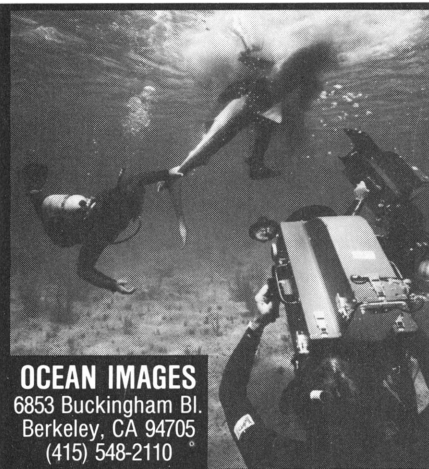
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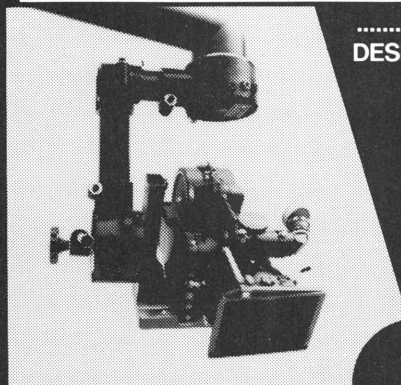
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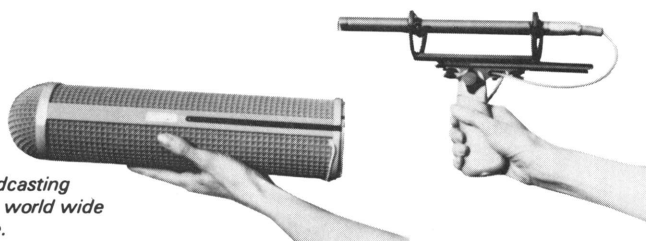
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The Cosby Show operates on a four-day schedule. Monday calls for a script conference and a casual read-through generally lasting half a day. Cosby has a lot to say in these matters and really controls the dialogue and timing. Tuesday is a dry rehearsal where the talent is walked through the set. Most of the technical talk about lighting and direction happens in the afternoon. Wednesday is "camera day" during which the show is blocked with stand-ins. "It's done more as a courtesy to Bill," says Sandrich. "I don't want to take up his time doing this." On Thursday, the regular talent gathers for the first dress rehearsal, to be taped to the live audience. Explains Steve Brill, "This is our final chance to touch everything up and the director's last chance to set up his shots, I'm usually busy taking down the hot areas off the walls and checking for boom shadows."

Two shows are taped in one day, allowing Jay Sandrich to capture the best of whatever Bill Cosby does. The kid's performances in the show are more predictable than the star's. "It's a show in which you have to allow whatever happens to happen," says Sandrich. "It's not as structured as other sitcoms, nor are we as rehearsed as most shows. The two tapings allow us to take part of Bill's speech from one show, cut away to somebody, and come back to Bill at a different place in a different show."

"My feeling as a director has *always* been that you have to adjust to the actors. We never tell an actor that he or she can't stand there unless it's for a specific reason – either they're off the set, or we sometimes need separation for closeups. I try to watch particularly where Bill tends to go in rehearsals. If he changes it, *we'll* change."

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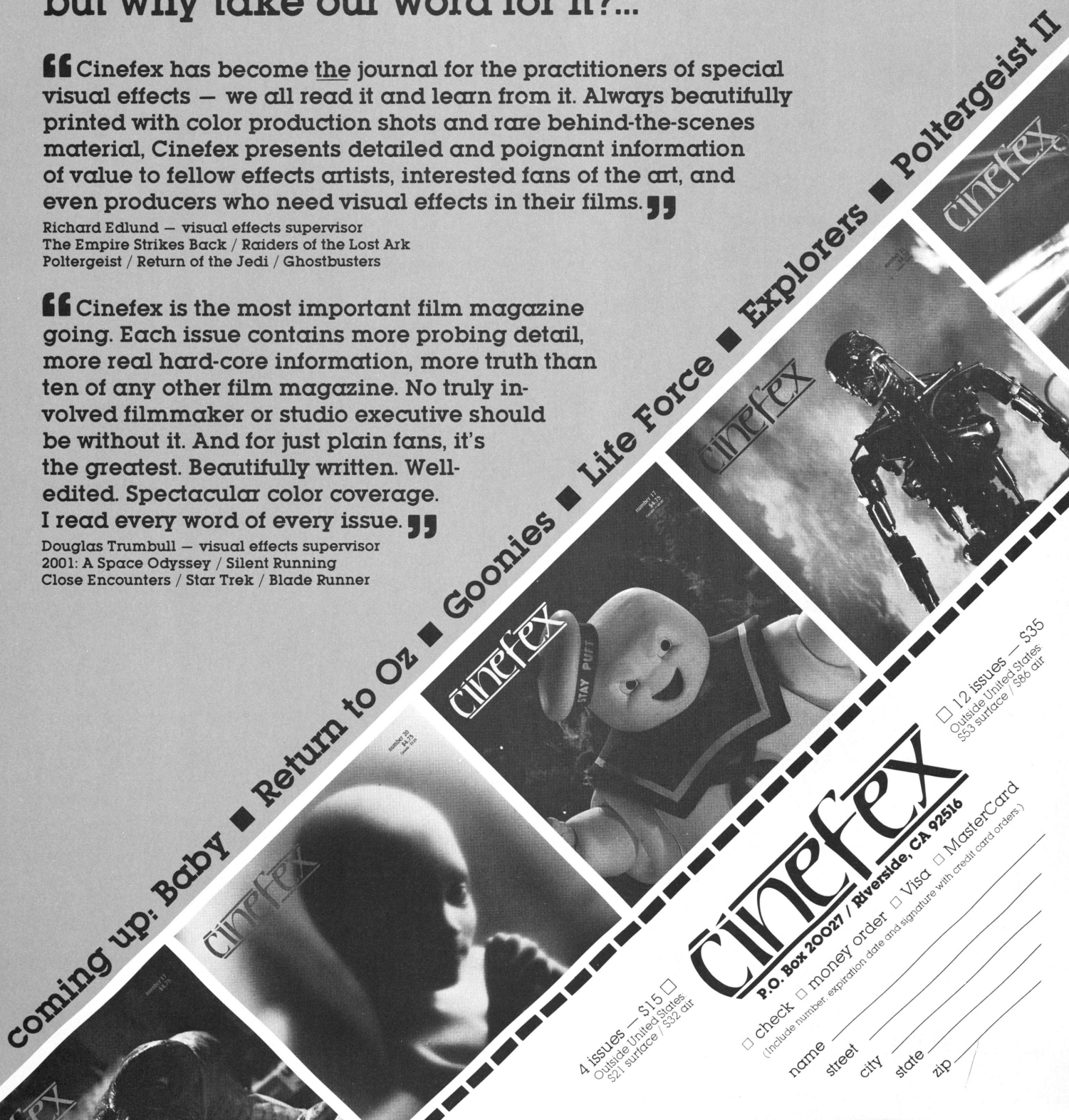
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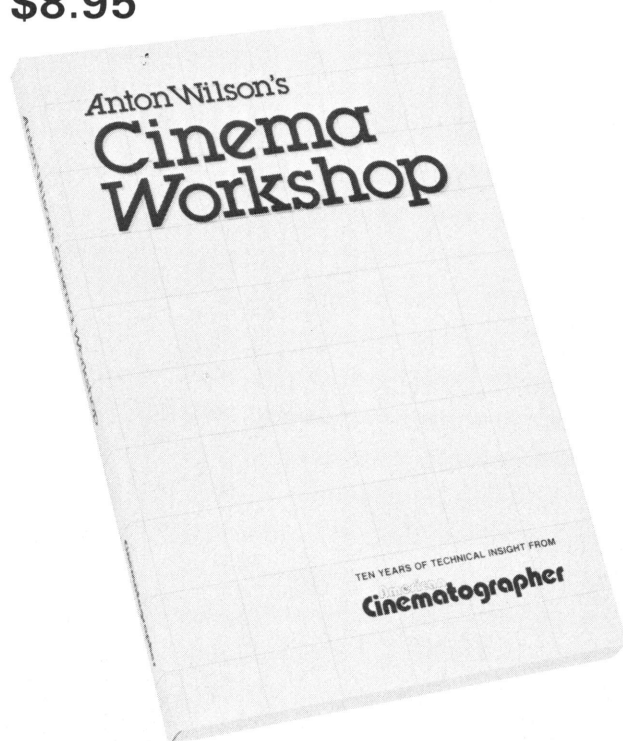
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Sandrich does a live edit as he goes along, but that changes completely in the editing room. The live tapings primarily exist to elicit audience reactions which are inevitably rearranged. "A director has to edit as he goes along, because they do react to what they see on the monitors and you do control the laughs. Basically I'll lay down the first cut. The day after assistant director Carl Lauten and Geoff Brown will go through every single tape there is, pinpointing the exact line and closeup we want. Then Geoff will start rebuilding the show. We *do* spend more time editing this show than on most TV sitcoms."

"We also use a greater number of closeups. It's not really eccentric. I always like relationships, having one person talk and another person react at the same time. Body language is important. Usually I would use more two-shots, but not here. Sometime's we'll use *too many* closeups, but we do that knowingly, because we're trying to get the best of Bill."

The Cosby Show accomplished something unprecedented – not only did it pump new blood into family-oriented situation comedy, but also the studio that houses it. According to Bob Galvin, vice-president of production operations (who fondly recalls working with Greg Garrison on NBC-Brooklyn's *Rootie Kazootie* show circa 1950), the studio will acquire \$2.5 million dollars of technical improvements. Brand new RCA TK47B cameras will supplant the rental Ikegami's. The thirty-year old dimmer board will be replaced. As of this writing, cement trucks are paving a new floor, facilitating better camera mobility. Six new video machines will be hooked up for the fall season.

Material gains aside, the network got more than it bargained for when it embraced Cosby's unique chemistry, which could have bounced off the net in light of *Magnum P.I.*, the opposition. But glory notwithstanding, it

would be unfair to call *The Cosby Show* the zenith of picture-tube repartee. Unlike *All In The Family*, where characters were vividly etched and social latitude was extended into uncharted waters, Cosby's sitcom works on another level. His Rube Goldberg style of humor, his delicious rapport with children, and the presentation of the black middle-class nuclear family with no obligatory ethnic focus (hence, pure self-conscious-less Americana) obviously contribute to its success. But there are invisible workings – the sensitivities of star and director – that help to put this show at the forefront.

"Really," Jay Sandrich attests, "the whole style and look of the show comes from Bill's outlook and attitude. His style is much more of a free-wheeling, spur of the moment thing. When that inspiration hits Bill, we have to be ready to get it and not tie him down with technical problems. His mind is constantly running and it never stops. It's an amazing thing to watch. Sometimes something'll happen and he'll immediately come up with a new line and attitude.

"There's a lot of touching that goes on in Bill's relationship to the kids. We'll always make room for that, no matter what's been written beforehand. I think that's very important in this show – to see the relationships between parents and children." ■

Paul Mandell is a freelance writer based in New York. He is a special effects animator.

John Hora photographed *Explorers*. Jack Cooperman, ASC, shot the aerials for *Explorers*. Interviews with both men are featured in the August issue of *American Cinematographer*. *Explorers* is one of the summer's most exciting feature film adventures. Also to be found in the August issue, new information on the uses of Sky-cam, the Louma crane and a dissertation on motion control in optical printing.



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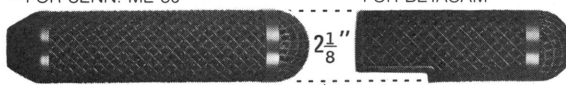
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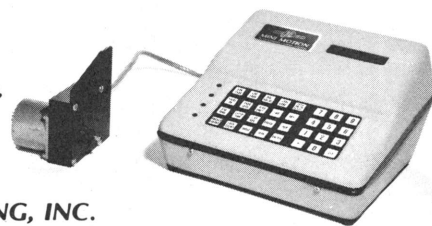
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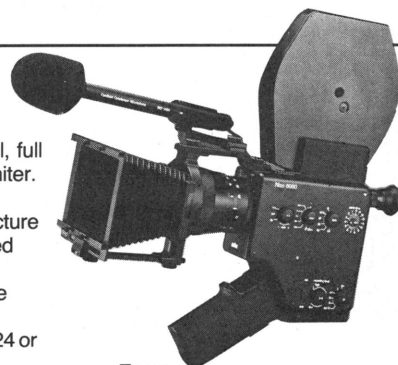
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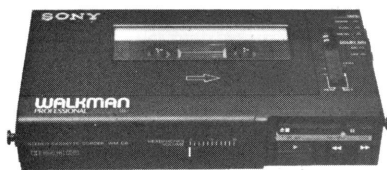
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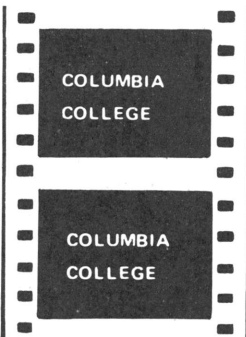
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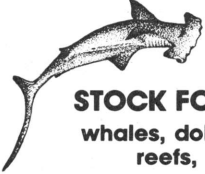


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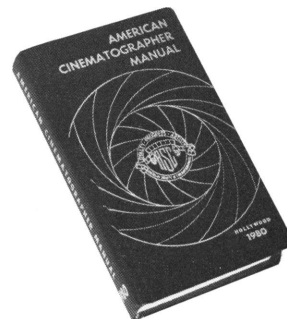
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July 7-13, 1985

American Film Institute
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July 9-12, 1985

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July 21-27, 1985

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July 22-26, 1985

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August

August 5-9, 1985

University Film & Video Association
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Department of Communication Studies
California State University
5151 State University Drive
Los Angeles, CA 90032

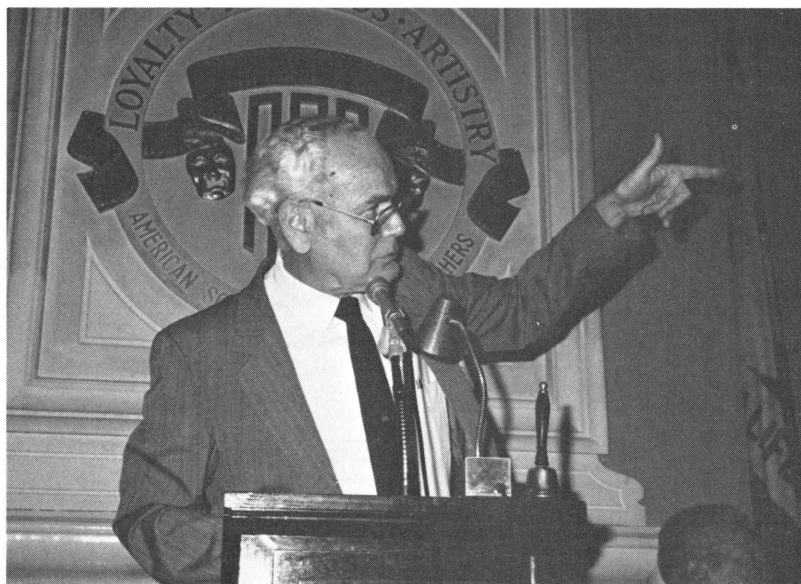
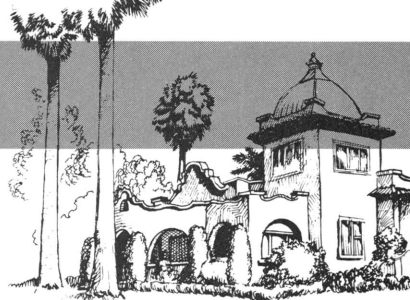
August 10-17th

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August 25-28, 1985

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From the Clubhouse

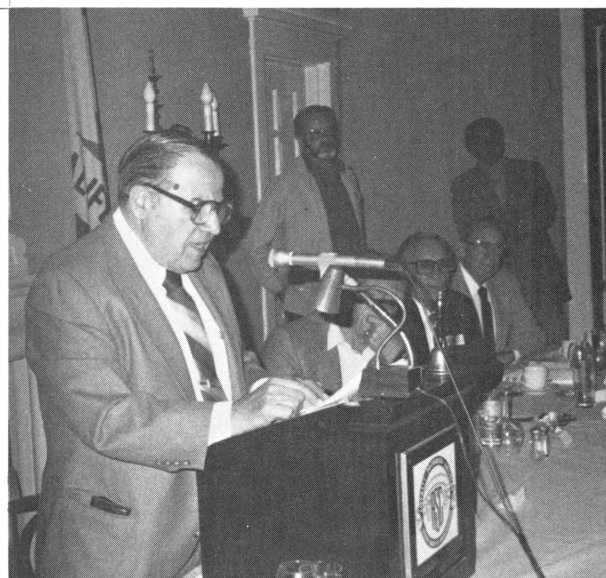


Ringer

As part of the continuing State of the Art series in monthly programs for A.S.C. membership, Harry Teitelbaum spoke to the April meeting and Robert Ringer addressed the May group.

Teitelbaum spoke of new emulsions from Fuji Film and illustrated his talk with a slide show. Ringer talked about the newest techniques in tape to film and film to tape transfers. Ringer's demonstration consisted of a 35mm film show of various systems of transfer.

It has been announced by Joseph Westheimer of the Academy of Motion Picture Arts and Sciences Technical or Scientific Awards committee, that entry forms for these awards to be given in 1986 are in the mail to foreign countries. They will be sent within the United States on August 9. Awards are given for devices, methods, formulas, discoveries or inventions of outstanding value to the arts and sciences of motion picture making. "We have a substantial international mailing list," Westheimer has stated, "but there are still many motion picture equipment manufacturers that are unaware of our search for information on new products. We would like to hear from them."



Teitelbaum

Gene Polito, chairman of the 2nd Annual A.S.C. Golf Classic, announced that reservations for participation must be made by June 17th. The tournament will be held this year at Brookside Golf Course in Pasadena and the chairman emphasized that all members and their guests will be welcome. The day is billed as "fun-filled" and a wrap party on July 15 at the clubhouse will feature trophy awards.

In Memoriam

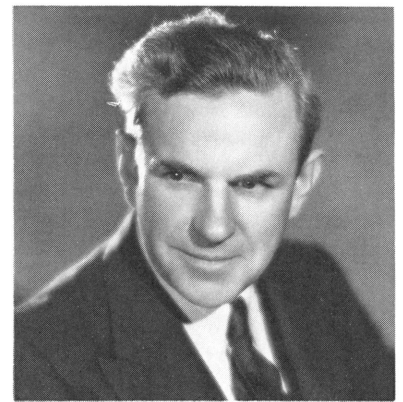
Glenn R. Kershner, DM, ASC, wrote the following to *American Cinematographer* in a letter dated April 17, 1985:

"We boys who delivered the *Morning Republican* newspaper were on the floor putting the papers together and saw a big sign being hung in the window: BATTLESHIP MAINE BLOWN UP IN HAVANA HARBOR . . . Little did I think at the time that I would be lugging a movie camera in the three big wars to follow. Today I am looking back over a hundred years, still lugging cameras and keeping a daily diary as to where I have been during all those years . . . Here I am, in 1985, still pounding this typewriter, in Hawaii, still in the best of health, enjoying the sunshine, the people, the flower-filled val-

leys, and the waves rolling in on the wide beaches."

A hundred years! Kershner – cinematographer, musician, artist and writer – was the oldest ASC member until his death in Honolulu last May 9. About six months earlier his friends flew him to Hollywood for an evening of fellowship at ASC headquarters. To everyone's amazement, he stood at a mike and, for more than an hour, told of his adventures.

He was born July 20, 1884, on a farm near Findlay, Ohio. His first camera was a 2" x 2" Kodak box with sensitized glass plates which came as a premium with a \$1.50 pair of shoes. His first photo was of an explosion; it and his story were sold to the Cincinnati *Inquirer*. He graduated to better and



better cameras, each paid for by work done by its predecessor. During a youthful nomadic period he was a cowboy in New Mexico and Arizona, where he photographed among the Apaches, Hopis and Pueblans. Having studied at a music conservatory in Detroit, he also worked often as a musician. From playing in Barbary Coast bordellos and can can cafes in Paris, he eventually became a flautist and piccolo player in theater orchestras, the Detroit Symphony and the Honolulu Symphony. He was captured by Mexican bandits while covering the Revolution, was shanghaied aboard a commercial schooner, piloted a plane to the North Pole for Howard Hughes, and worked as an undercover agent for Uncle Sam.

His first work as cinematographer was shooting the *Ford Educational Weekly* one reeler from 1914 through 1921. He was one of the early special effects cameramen, providing glass shots (which he also painted), composites and miniature work for various companies. He worked on *Ben Hur* in Italy for six months, was among the earliest aerial cameramen, and was on numerous expeditions including those to the North Pole, the Fijis, and Pathé's Colorado River trip. He was reported dead on four different occasions. He was involved in the introduction of panchromatic film as well as an early color process. He photographed second units for *Mutiny on the Bounty*, *Gone With the Wind*, and others. For the Technicolor company he co-photographed their first great success, *Wanderer of the Wasteland*, in 1924.

Kershner spent his later years in Honolulu. He is survived by two sons.



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- *Oct 1980 "Cosmos"
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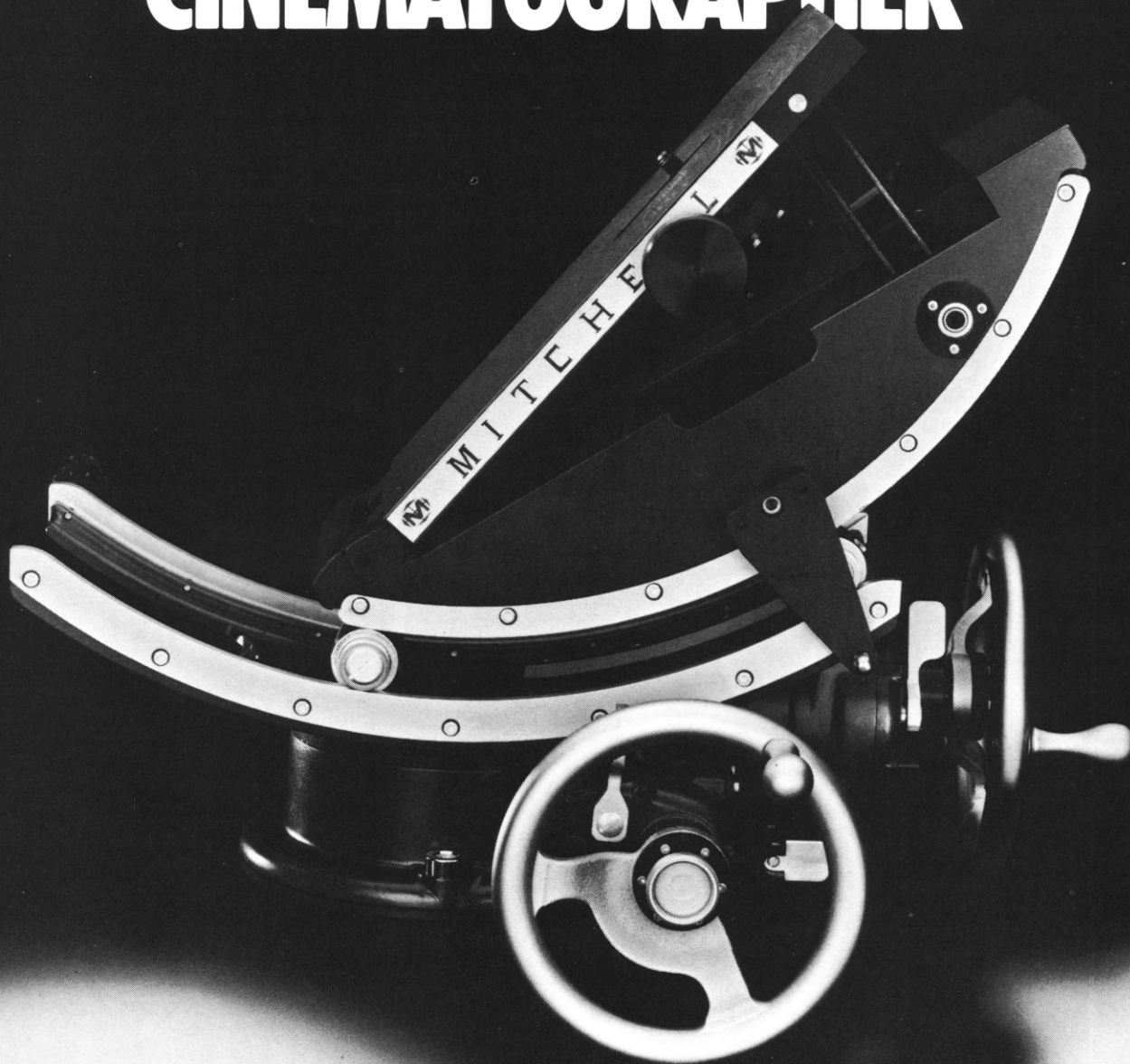
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